

NAVAL POSTGRADUATE SCHOOL

Monterey, California



GERMAN DISRUPTION OF SOVIET
COMMAND, CONTROL, AND COMMUNICATIONS
IN BARBAROSSA, 1941

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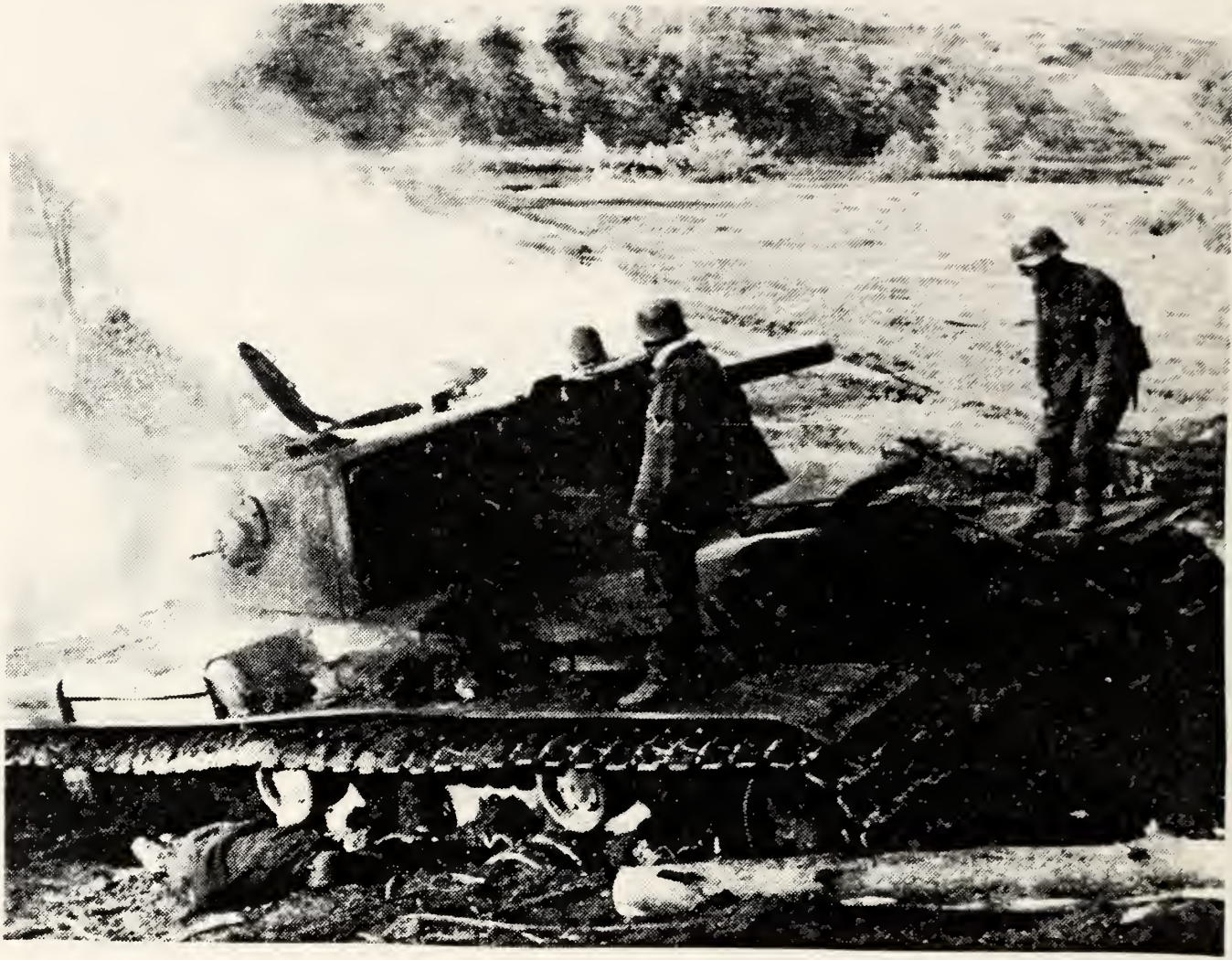
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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) The authors examine the German plans for Operation Barbarossa and the combat operations of the first five weeks of war in the East in June-July. The Germans achieved enormous success in the opening stages of the offensive including the shattering of Soviet command, control, and communications (C ³). The purpose of the study was to determine the means by which the Germans disrupted Soviet C ³ and the resulting possible use of Barbarossa as a model for the Soviets in disrupting NATO C ³ in the opening stages of a Warsaw Pact offensive in Central Europe today. The study is based on interviews with		

German participants in Barbarossa and documents in the federal German military archives at Freiburg. The study supports the following generalizations:

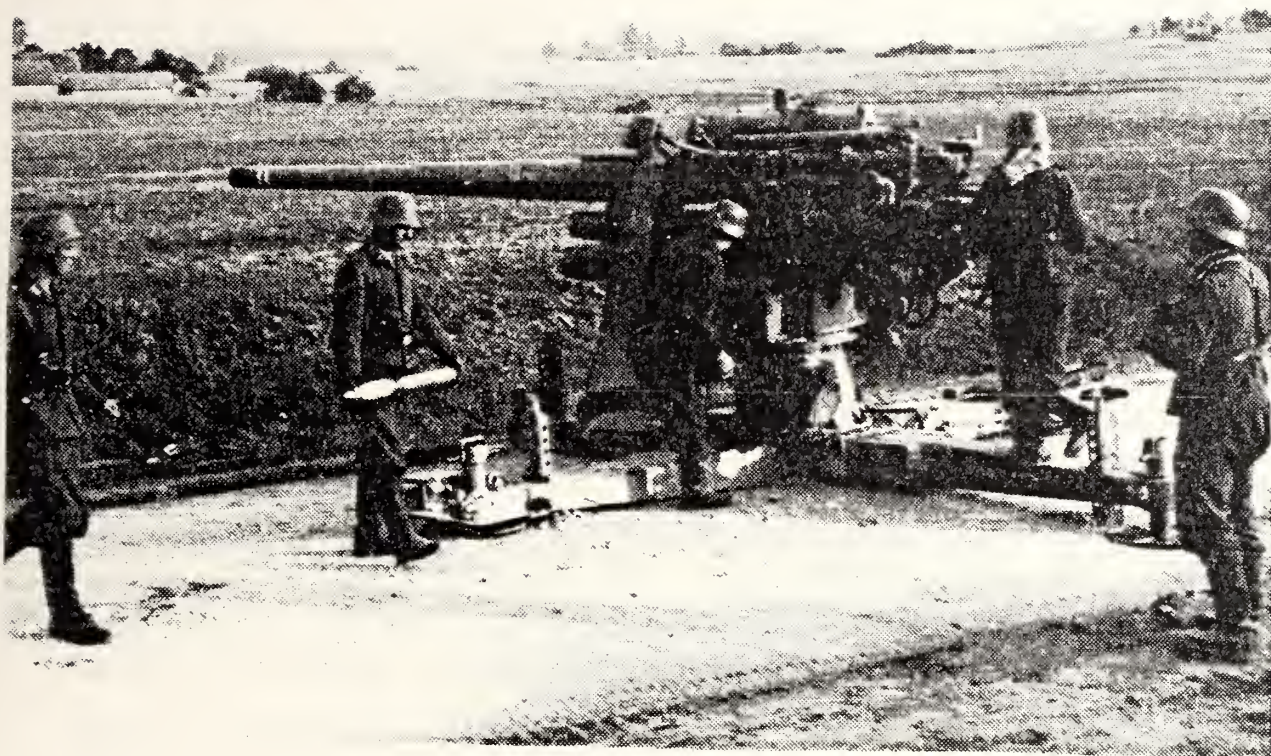
- (1) The German planners of Barbarossa did not have sufficient intelligence of the Soviet armed forces, their relatively primitive C³ system, and the communications system of the Soviet states to consider as a vital part of their planning the deliberate paralysis of the Soviet armed forces.
- (2) The Germans were determined, particularly in the central front opposite their most powerful concentration of forces, to prevent the escape of the powerful peacetime armies into the hinterland of Russia.
- (3) German military operations concentrated, therefore, on extraordinarily swift and deep penetrations by mobile forces designed to encircle and destroy the largest possible concentrations of Soviet troops causing irreversible casualties and damage and resulting in the quick seizure of the transportation, communications, political, and psychological hub of the Soviet Union -- Moscow.
- (4) The German military operations designed to encircle physically and destroy vast Soviet army formations simultaneously shattered Soviet C³.

A lesson of the study would seem to be that a massive, surprise offensive at the beginning of a war should lead quickly to the destruction (direct casualties and damage) and disintegration (paralysis of command and disruption of control) of the strategic defender. In a Warsaw pact offensive at the beginning of a war in Central Europe, the Soviets could achieve a decisive victory with or without special emphasis on deliberate disruption of NATO C³ simply through the violence and speed of the attack against the opposing forces in the field. It is unsettling to note further, however, that the Soviets in applying a potential version of Barbarossa in the future would probably deliberately target the massive and well known NATO C³ hardware systems and personnel in West Germany with corresponding paralyzing effects added to the destruction of the NATO forces lying in the paths of the major attacks.



THE ANVIL

Impressive by any standard with approximately 20,000 tanks, 15,000 combat aircraft, and huge reserves of tough peasant riflemen, who were politically indoctrinated by a meticulously organized political party, the Red Armed Forces stood in 1941 as the most formidable anvil which had ever been struck by an attacker. Shown here, a smoking KV-I heavy Soviet tank, a recent victim of German tactical skill and confidence.



THE HAMMER

Impressive by any standard with mission oriented leadership (Auftragstaktik) and decisive historical style characterized by the strategic concept of the great battle of decision (Entscheidungsschlacht), the German Armed Forces achieved near-fatal results against the Soviets in the first 24 days of Barbarossa. Shown above is an example of German tactical flexibility: a Luftwaffe-served 88mm antiaircraft gun used in the ground firing role especially against Soviet tanks and fortifications.

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* Each map shows the position of every German division on the Eastern Front at 2000 of the day noted.

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- 11 Jan 80, Generalmajor a.D. Guenther Pape.
- 14 Jan 80, Generalmajor Alexander Frevert-Niedermein.
- 16 Jan 80, Generalmajor a.D. Dr. Eberhard Wagermann.
- 18 Jan 80, Brigadegeneral a.D. Rudolf Loytved-Hardegg.
- 19 Jan 80, General d. Bw. a.D. Johann-Adolf Graf von Kielmansegg.
- 20 Jan 80, Oberst a.D. Hans-Ulrich Rudel.
- 22 Jan 80, Oberst a.D. Hans-Henning Freiherr von Beust.
- 23 Jan 80, Oberst a.D. Robert Poetter.
- 24 Jan 80, Generalmajor a.D. Peter von der Groeben.
- 25 Jan 80, Generalmajor a.D. Detlev von Plato.

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NOTE TO THE READER

Throughout the text the U.S. equivalent of German military ranks have been used to avoid confusion. The German Generaloberst of the Second World War, for example, is translated as the U.S. rank of General, with both terms used to indicate four star general officer rank. A literal translation of Generaloberst would be Colonel General, however, the term was not used by the U.S. Armed Forces in the Second World War and is not used today. If one translates the ranks in terms of star equivalents, a German General der Panzertruppe would be an American Lieutenant General, a Generalleutnant an American Major General, and, finally, a Generalmajor would be an American Brigadier General. One exception to the concept of equivalents in the study has been in the case of the German Generalfeldmarschall, a rank which would be equivalent to an American General of the Army or Air Force. The German rank Generalfeldmarschall appears in this study several times and the authors felt that the term General of the Army would be awkward. The term Field Marshal, therefore, has been used in this study to indicate the German Second World War rank of General-feldmarschall.

Chapter 1

RESEARCH SCOPE AND METHODOLOGY

In the past several years, evidence has come to light which supports a view that the Soviet Armed Forces, particularly in cases where they have the luxury of a timely buildup of strength prior to a major offensive, will deliberately and systematically disrupt the command, control, and communications (C³) of their military opponents. The Soviets strongly emphasize the stunning of an opponent at the beginning of offensive operations, and, beyond the immediate question of the style and intensity of the disruption of C³, additional questions arise concerning the reasons for such emphasis and the historical antecedents or model for Soviet counter C³ operations. The Soviets have tended to rely heavily on the experiences of the great patriotic war, particularly when analyzing the challenges of modern ground warfare, and one must suspect that a heavy influence from the Second World War lingers on. It is not too much to expect, for example, that the pragmatic Soviets, whose C³ collapsed in the opening stages of the German surprise attack of 1941 (code name Barbarossa), would study the German operations as a lesson for Soviet offensives taking place under broadly similar strategical circumstances.

The present paper examines the German plans for Barbarossa and the first five weeks of operations in the East. The research team which put together the paper addressed itself to the following questions and points:

First (Basically), the Question: Did the Germans have a distinguishable, formal doctrine of attack against Soviet C³ in Barbarossa? (In effect, the question describes the thesis being

tested by the research team, namely, that the Germans operated under a distinguishable, formal doctrine of attack against enemy command, control, and communications).

Second, the Points:

1. Identification of the Soviet C³ targets which the Germans planned to attack within the framework of Barbarossa.

2. Identification of changes in the targeting which occurred in the early weeks of the operation.

3. Uncovering of the actual C³ targets attacked in the early weeks of Barbarossa.

4. Assessment of the success of the German attacks in disrupting Soviet C³.

5. Explanation of the reasons for any shifts that may have occurred in German targeting of Soviet C³.

6. Ascertainment of the balance between German attacks on C³ targets and other targets.

The research team was most interested in getting fresh insights from German staff planners in Barbarossa and actual participants in the early weeks of the operation on the German methods of attack, and, most specifically of course, operations against Soviet C³. The study is based predominately on interviews with German officer veterans of Barbarossa who were systematically chosen according to service and experience to comment on Barbarossa. The research team used the good offices of Brigadegeneral a. D. Paul-Werner Hozzel, German Air Force, and Oberstleutnant Albrecht von Mellenthin, German Army, in the months of October-December 1979 to locate and contact the officer veterans of Barbarossa who would be willing to comment on the planning and opening stages of the operation. General Hozzel was provided with an advanced set of questions which was intended to be distributed to the Barbarossa veterans in advance of the interviews. The questions would serve the purpose to prepare the veterans for the interview and warn them fairly

about the information being sought. General Hozzel edited and improved the questions which were then reproduced in smooth typed format placed in notebooks and mailed in advance to most of the German officers interviewed.

The questionnaire consisted of nine pages including an introductory letter, a sheet for background information on the Barbarossa veteran, and seven pages of questions which were blocked out so that succinct answers to every question could be completed on the forms themselves. The questions proper were divided into those which concerned: (1) planning for Barbarossa, and (2) combat operations during the opening stages of the operation. The research team did not intend that the forms be completely filled out by the Barbarossa veterans and comprise a part of the written study but rather that they be used in a businesslike manner to assist the Germans in thinking about the campaign and the researchers in systemically working through the subject. The questionnaire is illustrated in Appendix A, and shows the emphasis in the study on information about German attacks directly against Soviet C³.

When the research team arrived in Germany early in January 1980, it first made contact with General Hozzel and Lt Col v. Mellenthin in order to establish the final schedule of interviews. With tact and patience over the previous months, Hozzel and Mellenthin had managed to arrange meetings with most of the officers shown in Figure 1. The interviews with Col Rudel and Capt v. Luttichau were set up by the research team alone and in the latter case involved a visit to Washington D.C. where the Barbarossa veteran is presently an historian in the U.S. Army, Office of Director of Military History.

German Barbarossa Veterans

Interviewed

(Listed in Order of Time of Interview)¹

<u>Time</u>	<u>Highest Rank² and Name</u>	<u>Barbarossa Service & Task</u>
Dec 79	Hauptmann Charles v. Luttichau	Army: Staff
11 Jan 80	<u>GM</u> Guenther Pape	Army: Command
14 Jan 80	<u>GM</u> Alexander Frevert-Niedermeine	Army: Command
18 Jan 80	<u>GM</u> Dr. Eberhard Wagermann	Army: Command
18 Jan 80	<u>BG</u> Rudolf Loytved-Hardegg	Luft: Staff
19 Jan 80	<u>G d.B</u> Johann-Adolf Graf v. Kielmansegg	Army: Staff
20 Jan 80	<u>Oberst</u> Hans-Ulrich Rudel	Luft: Command
21 Jan 80	<u>Hauptmann</u> Nowack	Army: Command
22 Jan 80	<u>Oberst</u> Hans-Henning Freiherr v. Beust	Luft: Command
23 Jan 80	<u>Oberst</u> Robert Poetter	Luft: Command
24 Jan 80	<u>GM</u> Peter v.d. Groeben	Army: Staff
25 Jan 80	<u>GM</u> Detlev v. Plato	Army: Staff

¹With the exception of GM Frevert-Niedermeine, all of the officers were retired from service.

²GM = Generalmajor or Major General

BG = Brigadegeneral or Brigadier General

G d.B = General der Bundesheer or General

Figure 1

Figure 1 shows that the thirteen German officers who were interviewed held command and staff positions in both the Army and Luftwaffe during the planning and execution of Barbarossa. As was originally intended in the project, many of the views, interpretations, and conclusions in the study are based on the interviews with those thirteen officers who held widely varied assignments in Barbarossa. The research team additionally visited the Military Historical Research Institute and the Military Archives of the Federal Republic at Freiburg (Breisgau) and the Photographic Archives in Koblenz. At the Military Archives the team spent the equivalent of three man-weeks systematically searching for evidence of attacks against Soviet C³. The team examined plans, orders, diaries, and reports of German headquarters and combat formation which executed Barbarossa. The team also examined documents at the Hoover Institute (Stanford, CA), Air Force History Center (Maxwell AFB, AL), Army History Center (Carlisle Barracks, PA), and U.S. Army, Office, Director of Military History (Washington, DC), in an attempt to balance the fresh, specific material provided by the oral interviews.

The following observations on the sample of Barbarossa veterans interviewed are important to estimate the accuracy and credibility of the report on the German disruption of Soviet C³. In the report, the thesis which was tested, essentially that the German operated under a clear, formal doctrine of attack against Soviet C³ in Barbarossa, was rejected by every officer interviewed and was unsupported by the primary documents examined. The officers interviewed consistently presented a picture of German attacks intended primarily to smash the enemy through casualties to personnel and damage to equipment. The same officers represented a statistical sample with the following

strengths and weaknesses from the viewpoint of presenting a comprehensive picture of Barbarossa:

Sample of German Barbarossa Veterans

Weaknesses

1. Small Sample Size.
2. Restricted Distribution of Rank (and Age), e.g., Lt, Capt, Maj in Barbarossa.
3. Restricted Range of Commands Held, e.g., Plat, Company, Battalion.

Strengths

1. Effective Distribution Among Services, e.g., Army, Luftwaffe.
2. Effective Distribution of Staff Positions, e.g., hi/lo staffs varying from G-3 (opns) Army Group to G-4 Division.

With more time and money, the research team could have interviewed a larger sample of Barbarossa veterans but not a sample which would have been much more significant statistically. The restricted range of ranks and commands held in the sample can no longer, in contrast, be overcome by any research team with any amount of time and money. A German division commander in Barbarossa, for example, aged a reasonable 50 years would now be 89 years old and a rare find. Notwithstanding the excellent reasons for the narrow range of age, rank and command of the interviewers, the sample remains restricted to officers who experienced command in Barbarossa at junior ranks and in front line combat. The sample, in contrast, was adequately distributed among Army and Luftwaffe officers for purposes of picturing missions and targets attacked. The officers who held staff positions in the planning for Barbarossa and/or combat also represented a wide range of positions which tended to reduce the effects of the narrow distribution of age and rank and the limited range of command. Generalmajor Peter von der Groeben with rank of major in Barbarossa experienced planning at the exceptionally high level of assistant G-3 (operation) in Army Group Center

and Generalmajor Rudolf Loytved-Hardegg with rank of major served as G-2 for Air Fleet with responsibility for Luftwaffe targeting for the entire Soviet front for the first waves of the attack. The positions held by Generals v.d. Groeben and Loytved-Hardegg and their heavy responsibilities under the German general staff system partly counter-balance the narrow band of ranks held by the interviewees overall.

The report represents largely German views of the planning and opening stages of the campaign in the sense of both the personal impressions of German officers and the writings in the war diaries and similar primary documents. These sources paint a picture of the campaign in which the Germans concentrated their efforts on the destruction of the opposing Soviet ground formations through deep penetrations of Soviet space and the accompanying pressure of the trailing German infantry armies. The picture which becomes clear is one where the German formations moved rapidly across the Soviet transportation network to prevent the Soviets from withdrawing into the hinterland and incidental to that movement fractured the Soviet system of command and control as it existed in the summer of 1941. The Germans additionally did achieve in the first few hours of Barbarossa some effects against Soviet communications through attacks organized among anti-Soviet minorities which took place close to the frontier. Based on several comments by readers of the first draft of the report, the research team decided also to include in the final version a brief systematic chapter on Soviet C³ as it existed in 1941.

As it became apparent in the study that the basic thesis being tested, which had seemed to be so natural and viable, was in fact unsupported by either interview or document, a unique juncture was reached

during the research in Germany. The research team was faced with the decision of whether to inform the sponsor of the lack of German emphasis on the paralysis of Soviet C³ and somewhat dramatically terminate the research effort, or to press on and clarify how, in fact, the Germans had disrupted Soviet C³ so effectively. Because the research team had begun to see a body of consistent evidence coming into focus which portrayed what had happened in Barbarossa, it decided to press on to illuminate the disruption of Soviet C³ and to extract the more general lessons and warnings of Barbarossa for potential similar operations in the future. The team reasoned that a high intensity, conventional war in Central Europe would begin with an all-out offensive by the Warsaw Pact similar in many ways to Barbarossa (1941). From the viewpoint of a study oriented like its present one, the potential European operation in the future might even be referred to as Barbarossa II. The potential similarities which allow such an analogy to be made are: (1) the potential closeness in historical time of Barbarossa (1941) and a future War in Central Europe, (2) similarities in military technology, (3) similarities in weather and terrain, (4) similarities in the human parameters, i.e., Soviet Russians opposing (West)Germans, and (5) the similar strategical circumstances of an all-out attack at the beginning of a war with the special importance of surprise, initiative, and concentration of effort for the attacker.

The research team continued to piece together a picture which showed the enormous advantages held by the side in a conflict which achieves surprise and seizes the initiative at the beginning of a war. The picture was an important one to be made available to decision makers in NATO and was available in effective detail. The German success in the opening states of Barbarossa was also attributable to

several principles under which the Germans operated, some of which have application to the defense of the West today. The principles represented a tactical lingua franca among the German officers interviewed, who presented them consistently as the general reasons for the German success. The words which describe the principles which the Germans applied in Barbarossa were the following:

1. Entscheidungsschlacht, or alternately Vernichtungsschlacht. The principle of a single great battle of decision, or alternately battle of annihilation.

2. Auftragstaktik. Within the framework of every battle, mission oriented tactics.

3. Schwerpunkt. Within the framework of every battle or mission a point of main effort.

Mission oriented tactics on the part of the Germans at every level of combat gave them special advantages over the Soviets in Barbarossa and during the remainder of the war. The assignment of main points of effort at all levels of combat also gave the Germans special efficiencies in dealing with the numerically superior Soviets. The conscious general application of Auftragstaktik and Schwerpunkten in Barbarossa gave the Germans special decisiveness in smashing through the Soviet forces within the framework of a great battle of annihilation. In Barbarossa, the Germans emphasized destruction first. Paralysis followed as a result of the inflicting of casualties and damage and the overrunning of the opposing transportation network.

It is important to point out, however, that the Soviets had a primitive communications system which presented few opportunities for specialized attack and damage. The Barbarossa veterans also observed that their units had virtually no knowledge initially about the location of Soviet headquarters at any level. The observations are supported by the documented Soviet xenophobia and paranoia of the era

which prevented the Soviets from revealing military information of virtually any kind to the Germans. Not only were the Soviet reticent about providing information on military dispositions, but they also depended on relatively primitive communications hardware up to division level characterized by almost complete dependence on messengers, wire and telephones, and even light signaling devices and flags. The forests of radio antennas associated with Western formations at the division level and the numerous command-style motor vehicles were not present with Soviet infantry divisions. Soviet tank and mechanized divisions had small numbers of radios and a few specialized command vehicles. The field command posts of Soviet divisions were therefore exceedingly difficult to locate let alone paralyze by selective, purposeful attack. Higher level headquarters were located often in ordinary buildings in the cities, towns, and villages of the operational area and equally difficult to pinpoint. German documents note that Soviet transportation and communications targets in the cities were attacked based on tourist or government Stadtplane (city ground-plans) supplemented by aerial photography. The necessity for the Germans to use ordinary tourist city plans to target communications facilities in the larger cities was a bit ignominious and tends to bring into focus the lack of information about the Soviet Union and resulting lack of formal doctrine for attack against Soviet C³.

Chapter 2

SOVIET COMMAND, CONTROL, AND COMMUNICATIONS IN 1941

Command, Control, and Communications in 1941 was simpler than it is today, and Soviet C³ was more primitive than that of the Western powers. The Soviet Union employed C³ materiel similar to that of other nations, but the USSR's own peculiar national objectives, society, and internal bureaucratic organizations influenced its C³ system and made it different from other national systems in 1941. Aside from the influencing factors just mentioned, there were others which are particularly important to this study. The technological inferiority of Soviet C³ hardware, compared with German and American equipment of the same era,¹ restricted the performance and versatility of Soviet command and control. The unique highly centralized political system of the Soviet Union and bureaucratic stiffness of the political and military participants in the political system also combined to limit the versatility and responsiveness of Soviet C³. The geographical size of the Soviet Union increased the requirements of the Soviet C³ system and magnified its vulnerability to counter-C³ activities.

The Soviet officer corps was still suffering the after-effects of the purges of the 1930s and was unprepared for the threat developing in the west. A leadership void had been created in the Red Army by the purges and had not been filled by 1941, since there were simply not enough qualified officers to occupy the positions available. A lingering element of fear still pervaded the Red Army in 1941, and

¹Interview, Kamil Usfensky, Cambridge, Mass. 1980.

officers and non-commissioned officers were reluctant to exercise their own initiative for fear of making mistakes, i.e., it was safer simply to follow orders exactly. Such a situation severely detracted from effective command and control in the Red Army.

The modernization of military thought, equipment, and organization, begun by Marshal M. N. Tukhachevskii in the 1930s was reversed following his death in the purges. In December 1940, after careful study of the German campaigns in Poland and the West, however, the Army initiated a program to reorganize and modernize its armored forces, but to effect such a reorganization the Red Army would require more time than the Germans allowed. Caught in the midst of reorganization and modernization when Operation Barbarossa began on 22 June 1941, the Soviets paid a heavy price when overrun by the Germans. Stalin compounded the problems plaguing the military in 1941 by his ominous mistrust of the officer corps. As Operation Barbarossa began, Stalin was single-handedly making decisions on important military matters,¹ frequently countermanding orders issued by Military District Commanders to rectify locally perceived deficiencies in readiness. Stalin additionally threatened executions for incompetence or disloyalty and in fact carried the threats out following the initial setbacks in Operation Barbarossa. The problems enumerated above were a catastrophic liability for the Red Army at the moment the German forces unleashed Operation Barbarossa.

The officer corps of the Red Army was in an uncomfortable position at best, but what about the common soldier who would carry out the orders of the Army's leaders? The Soviet soldier was a simple, uncomplicated

¹History of the Great Patriotic War of the Soviet Union 1941-1945 (Moscow, 1961), p. 11.

individual, largely recruited from a rural, peasant background. Independent thought and action were conspicuously absent from his military make-up, but he displayed superior determination and adaptability. Soldiers in the Red Army had few necessities and many enjoyed a better existence in the army during the Great Patriotic War than in their peasant villages. The closeness to nature, characteristic of peasant life, enabled the Soviet soldier of such background to choose almost unconsciously the appropriate and correct military course of action when his existence was threatened.¹ From his experience on the Russian front, Generalleutnant Sintzenrich, formerly Commander of the German 132d Infantry Division, made the following cogent observation:

"All these traits are rooted deeply in the Russian soldier; military training could teach them to a man matured in a higher civilization only laboriously and with difficulty."

"In all operations and movements within a unit, he is, however, greatly dependent on the leadership of those above him. Independent thinking, except in situations involving his adaptability to natural surroundings,..., is not in his nature."²

Although there were cases of entire Red Army units surrendering or deserting during the first five months of Operation Barbarossa, there were also reports of units fighting to the last man with fanatical determination.

One must also examine the character of the Russian land to appreciate the problems of command, control, and communications as

¹Generalleutnant a.D. Sintzenich, 132d Infantry Division-Geomilitary Description of the Western Ukraine-the Russian Soldier (Unpublished Foreign Military Studies Typescript #D-103 Historical Division USEUCOM, 1947), p. 6.

²Ibid., pp. 7-8.

they existed in 1941. The generalization that Russia was a large, remote, underdeveloped country is not sufficient to grasp its immensity and appreciate the number of waterways, from intermittent streams to great rivers, which traverse Russia in every direction. Such a host of waterways required a multitude of bridges whose real importance became more apparent in time of war. Considering the size of Russia, the underdeveloped condition of the Soviet motor vehicle industry in 1941, and the extremely primitive road system, the Russian railroad presented the predominant means with which to accomplish the strategic maneuvers required in that vast country against a mobile opponent like the German Army.

Soviet national communications in 1941 consisted of a shallow set of communications systems which largely converged on the Russian capital, Moscow. Captain Charles von Luttichau,¹ an intelligence and later signal officer with the German Army on the Eastern Front, succinctly described the Soviet communications system as "very primitive but adequate for its purpose."² Operation Barbarossa, however, served Soviet purposes very poorly. The official Soviet History of the Great Patriotic War, with remarkable candor, described Soviet communications on the first day of Operation Barbarossa as improperly organized.³ The Soviets had designed their communications according to a preconceived concept of the type of conflict that would develop on the western frontier. This concept seems to be one in which the

¹Capt von Luttichau has also completed extensive research into the early part of the war between Germany and Russia and has authored the Barbarossa volume in the U. S. Army series on the Eastern Front.

²Interview, Charles von Luttichau, Washington, 1980.

³The Great Patriotic War, p. 11.

Soviets felt they would have sufficient forces to check an attack conducted at the slow pace of military operations they had experienced in the past and to seize the offensive themselves. Operation Barbarossa, with its opening swift, deep breakthroughs was inconsistent with this notion and the Soviets began to disintegrate within the opening hours of the attack.

The Soviet communications system although primitive was extensive and it is useful to distinguish among the individual communication systems, for example, those of the Military Party, etc. and the various communication means, for example, telephones, radios, etc. employed in the national communications network of the Soviet Union. The five principal communications systems which served the Soviet Union during part or all of Operation Barbarossa were the following:

1. The Military Communications System.
2. The Communist Party Communications System.
3. The Commissariat of State Security (NKGB) Communications System.
4. The Commissariat of Interior Communications System.
5. The Local Government Officials Communications System.

These five systems ranged from the Military System, which could be precisely defined by the hardware it employed, to the Local Officials System, which could be loosely defined by the users it serviced. The various means of communicating employed over the five systems are given in Figure I. Figure II graphically portrays the means of communications used in the military system and arranges them according to the level of command at which they were generally employed. Figure II shows that a transition existed from those means employed at the tactical level. The telephone was the primary means of communication employed by all the various communications systems. The Post Office Commissariat managed state telephone communications in Soviet Russia

and the location of telephone exchanges in the basement of postal buildings reveals a certain degree of hardening of these communication facilities.¹ Concerning radio communications, it can be said that they were less important than telephone communications. High-frequency radio transmissions, however, were important means of communications at strategic levels over the extremely long distances involved in the Soviet Union. No single communications system can be cited as superior to all the others, and it is important to note that all five were available to the national leaders who used the system which best served their requirements at any given time.²

Little information is available on the various communications systems comprising the National Communication Network in the Soviet Union in 1941 with the exception of the Military System. The Communist Party in the Soviet Union operated its own communications system in 1941, utilizing telephonic communications on the Party's own telephone lines.³ Although few specifics are known, it can be stated that the People's Commissariat for State Security with its state intelligence organization (NKGB), operated its own system of communications within the USSR⁴ and utilized radio transmission to communicate with its spy networks in foreign countries. The Commissariat of the Interior, which controlled the border guards in the west, also operated its own

¹Interview, Charles von Luttichau and Detmar Finke, Washington, 1980.

²Interview, Aleksandr Nekrich, Cambridge, Mass, 1980.

³Interview, von Luttichau.

⁴Interview, Nekrich.

communications system for direct contact between the border and the Ministry in Moscow. Except for the exchange of information which occurred at the Ministry level, the communications system of the Commissariat of the Interior interfaced with the Defense Commissariat Communications System only at the Military District level.¹ The Local Officials Communications System was the least complete of all the communications systems and probably relied on conversations conducted on the state telephone network, messages sent on the telegraph system, and conversations face-to-face.

The Military Communication System (see Figure 2) was designed to operate under the rigors of war, and was more complex than the other four systems previously discussed. The civilian telephone land-lines and cables operated by the People's Commissariat for Communications, however, provided the basis around which the Military Communication System functioned.² Even the armored units connected into the civilian cables as the following statement indicates:

"The signals of the 22nd Tank Division, for example, were operated through the local post office, where the formation plugged into the civilian telephone network and telegraph service (22 Tk. Div. record, 7.61941: captured document)."³

Personal face-to-face and messenger communications were extremely important in the military and were probably the primary means of

¹Interview, von Luttichau.

²John Erickson, The Road to Stalingrad (New York , 1975), p. 22.

³Ibid., p. 73.

Figure 2

Communications Means Comprising
The Various Communications Systems
(Including communications facilities within each means)

<u>Means (Generic)</u>	<u>Means (Specific)</u>
Telephone:	State telephone lines Military telephone lines Party telephone lines Railroad telephone lines Telephone Exchanges Civilian (in State Post Offices) Military
Telegraph:	Booster Stations State telegraph lines Military telegraph lines
Messengers:	Couriers State (ground and air) Military (ground and air) Liaison Officers Messengers Motorcycle Vehicular Runners
Radio:	State radio facilities State Security (NKGB) radio facilities Special High Command radio facilities Military field radios Military nodes of communications

Figure 3

MEANS OF COMMUNICATIONS EMPLOYED IN THE MILITARY COMMUNICATIONS SYSTEM

COMMAND ECHELONS	TELEPHONE	TELEGRAPH	COURIER	OFFICER LIAISON	MESSENGER/ RUNNER	RADIO
MOSCON*	_____	_____	_____			_____#
THEATER	_____	_____	_____			
FRONT	_____	_____	_____	_____		
ARMY	_____	_____	_____			
CORPS	_____	_____	_____			
DIVISION	_____	_____	_____	_____		
REGIMENT	_____	_____	_____		_____	
BATTALION	_____	_____	_____			
COMPANY	_____	_____	_____			

* INDICATES, COLLECTIVELY, SUCH ORGANIZATIONS AS THE SUPREME COMMANDER, STATE DEFENSE COMMITTEE, STAVKA, DEFENSE COMMISSARIAT, AND THE GENERAL STAFF.

DENOTES ARMOR UNITS

communication at the company, and perhaps even battalion, level. Couriers and liaison officers replaced messengers in the personal communications role at the regimental level and higher. Radios were employed only above the division level except in armor units where radios were common at all levels.¹ It is likely that radio communication was the primary means of communication in armor units with personal face-to-face, messenger, and telephonic communications assuming secondary importance, although little direct evidence can be presented to support such a view.* In the Soviet Military Communications System in 1941, communications were not effectively coordinated between the infantry and its supporting arms, for example, air and artillery. The Soviet artillery forces, however, had excellent internal communications.

Due to a paucity of wireless sets and limited experience with wireless communication before the Great Patriotic War, many Red Army personnel were not familiar with radio communications and preferred to rely on the more familiar telephone.² Radio operators who were formally trained, however, were extremely well trained and assigned to corps level commands and above. Radio operators below the corps level where radios were used only in armor units (see Figure 3) were typically poorly trained on the job and limited in technical ability.³

¹Interview, von Luttichau.

²Alexander Werth, Russia at War (London, 1964), p. 138.

³Interview, Nekrich.

*According to Richard Ogorkiewicz, Armoured Forces (New York, 1970), p. 99, a Russian armored, or Tank Division consisted of two tank regiments, one motorized infantry regiment and an artillery regiment while a motorized division included two motored infantry regiments, one tank regiment and an artillery regiment.

Only in the Leningrad Military District had the system of radio nets reached an effective degree of development by 22 June 1941 to make a significant contribution to the defense of the Soviet Union in the opening stages of Barbarossa.¹ The communications section of a typical staff was known as the node of communications. An army level node of communications,* for example, was headed by the Army Signals Officer and usually included the communications equipment and operators, cryptographic personnel, representatives from the operations and intelligence staff sections, and political and state security personnel.² Special High Command Radio Communications Units, operating under the direction of the Signals Administration, existed to maintain contact between the General Staff in Moscow and the Fronts.³

No separate air signal service existed in the Red Air Force in 1941. The Army Signal Service supported both the Air Force and the Army with wire and radio communications, and in the case of the Air Force, with a weather reporting system. Flying units, area air commands, air divisions, and air bases had Army communication personnel included as organic units. Wireless telegraphy and radio were the primary means of communications in the air forces, but a variety of

¹Erickson, Stalingrad, p. 72.

²Interview, Nekrich.

³Erickson, Stalingrad, p. 73.

*The Army level node of communications communicated with the Front and Corps nodes of communications. When Corps were eliminated on 10 July 1941, the Army communicated directly with the divisions.

other means such as wire, marking panels, visual and light signals, and flares and rockets were also utilized.¹ Separate radio networks existed for ground-to-air, air-to-ground, ground-to-ground, air traffic control, and weather service communications. Although a variety of radio nets existed to support the Air Force, the signal communications services were poorly organized and the air signal network was not suited to the flexible conduct of air warfare.² Specific wave-lengths were not assigned to units in the Air Force, but rather a complete wave-band of frequencies was allotted to a Front (army group) area. The frequencies and sometimes also the call signs were changed arbitrarily twice in one day.³ Only a few Soviet aircraft were equipped with radios in 1941. Commanders of attacking flights of aircraft were able to communicate with radio from air-to-ground but were forced to more primitive, visual communications between aircraft in flight.

Radios were in short supply in the Soviet Air Force and were of the same low quality as those used by the ground forces. Only a few radio beacons existed in 1941 in Russia, and very few of them were used by the military.⁴ Aircraft instruments, such as radio direction-finding equipment, were crude and even the influx of superior American equipment failed to improve the situation because of a critical shortage

¹Generalleutnant a.D. Walter Schwabedissen, The Russian Air Force in the Eyes of German Commanders (New York, 1960), p. 31.

²Ibid., p. 159.

³Ibid., p. 154.

⁴Ibid., p. 31.

of personnel able to operate the superior equipment. Harold Faber in Luftwaffe, a History offers a unique, descriptive account of Soviet airfield operations before the German attack.

"Control towers were unheard of in Soviet ground organizations and radio and electrical apparatus were usually nonexistent. When units took off it was reminiscent of the old flying squadrons of World War I, which operated from primitive fields and communicated by a wave of the hand or a tip of the wings. Even normal field telephone equipment was absent from most Soviet airfields."¹

Soviet communications equipment in 1941 was technically inferior to German and American equipment of that time. Lt Col Kamill Usfensky, an intelligence officer in the Red Army on the Eastern Front, considered the American field telephones provided the Soviets through the Lend-Lease Program to be "twice as good" as Russian phones then in use. The German communications equipment encountered by the Soviets during the course of Operation Barbarossa was so superior to similar Russian equipment that the Soviets employed captured German radios and telephones whenever they were available.² The Soviets were habitually short of radio sets, operators, and repairmen. On 22 June 1941, in fact, the 3rd Army under Lieutenant-General Kuznetsov, holding the right flank of the Western Military District at its junction with the Baltic Military District, had no radios in service to higher headquarters during the German attack because of Soviet maintenance problems.³

¹Harold Faber, Luftwaffe, a History (New York, 1978), p. 233.

²Interview, Usfensky.

³Erickson, Stalingrad, p. 119.

Varying degrees of sophistication existed in the cryptography employed by the Soviet forces in Operation Barbarossa. The well-trained radio operators of corps level and higher could handle complicated ciphers with assistance from cryptographic specialists.¹ The tactical units were restricted to elementary ciphers and simple call signs due to the limited training of the communications operators.² German army group codebreakers were unable to crack the high level codes employed between Stavka and the Theater Commands but codes used below corps level, often the Caesar's Codes actually developed during the time of Caesar, proved relatively easy for the Germans to decipher.³ In addition to formal ciphers, the Soviets used simple, easily deciphered, word-substitution codes in their tactical transmissions.⁴ To facilitate their use, the codewords were usually written around the border of the unit operations map, which resulted in the capture of the codes whenever a map was captured during Operation Barbarossa. The elementary system of codewords employed by the Soviets was easily compromised, and the use of this primitive codeword system caused a dangerous false sense of security wherever the codewords were employed.

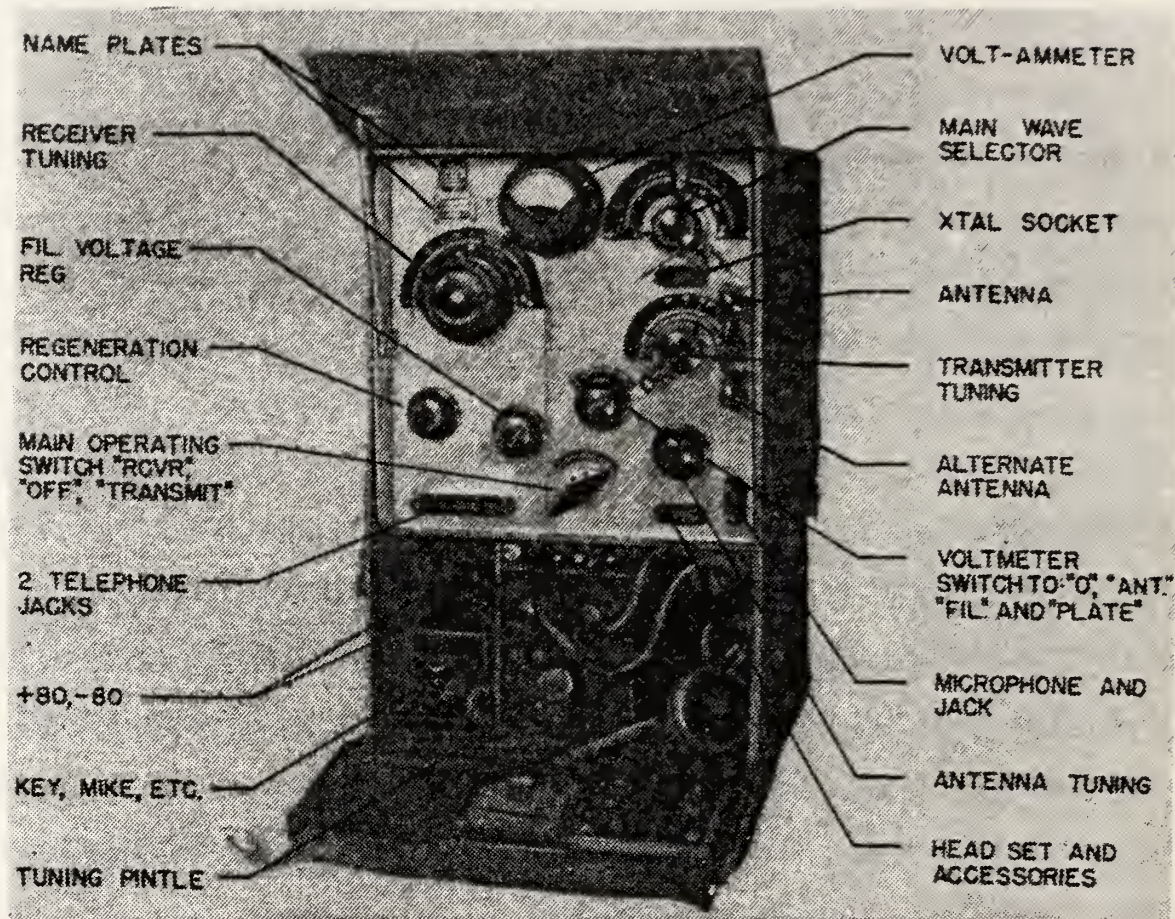
The Soviet Command and Control (C²) System, which conceptually can be considered as a subset of the overall Soviet Command, Control,

¹General der Nachrichtentruppen Albert Praun, German Radio Intelligence (Unpublished Foreign Military Studies Typescript #P-038 Historical Division USEUCOM, 1950), p. 94.

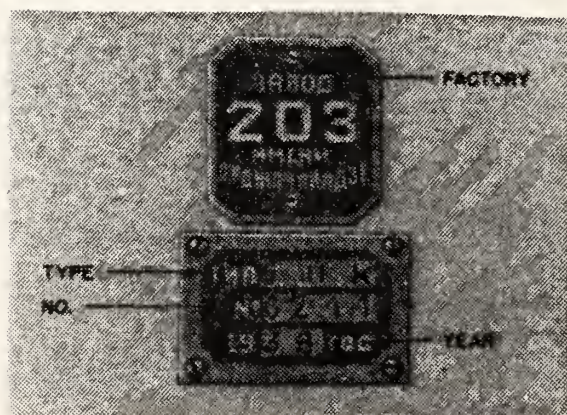
²Interview, Nekrich

³Interview, von Luttichau

⁴See Generaloberst Hellmuth Reinhardt, Small Unit Tactics (Unpublished Foreign Military Studies Typescript #P-060d Historical Division USEUCOM), Appendix III for a more complete discussion.



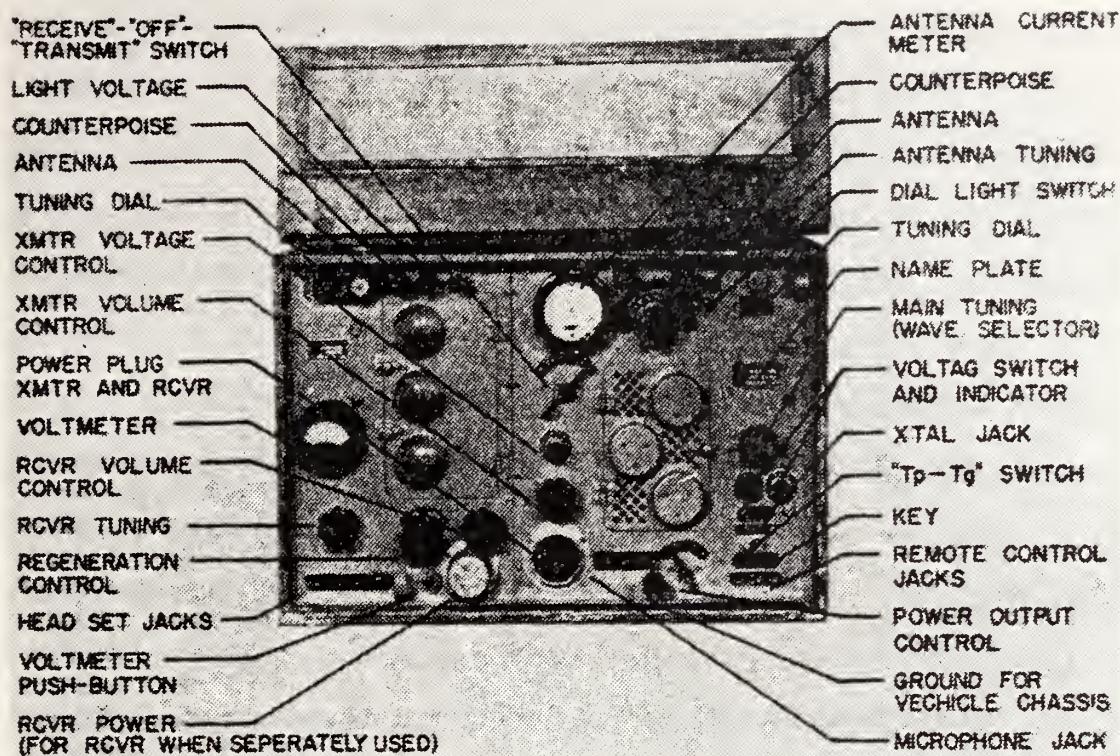
Transmitter-receiver 6-PK.



Nameplate for transmitter-receiver 6-PK.

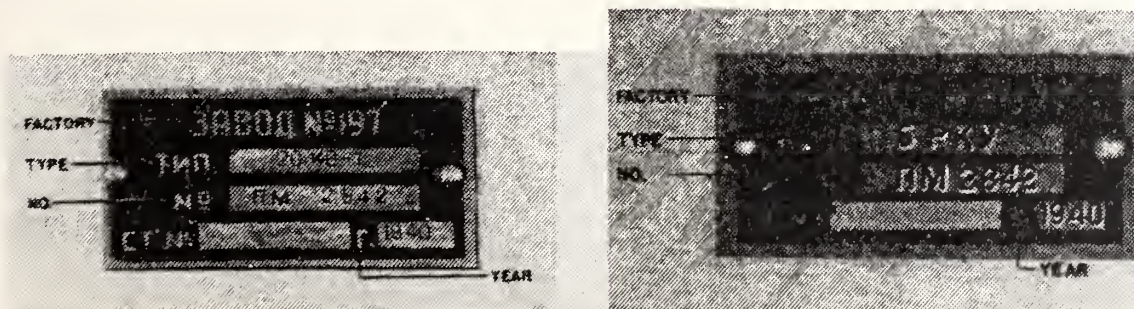
The 6-Pk was a pack-type transmitter-receiver used by the Red Army during Operation Barbarossa. This radio was poorly constructed and poorly designed for maintenance (although the operating controls were reasonably accessible). The 6-PK transmitter-receiver was encased in a flimsy wood case covered with canvas on the outside.

Illustration 1. Transmitter-Receiver 6-PK



Transmitter-receiver 5-AK-1M.

The Soviet 5-AK-1M transmitter receiver was a relatively compact, vehicular mounted radio used by the Red Army during Operation Barbarossa. The 5-AK-1M transmitter-receiver weighed approximately 286 pounds and required over 36 feet of antenna to operate..



Nameplates for transmitter (left) and receiver (right) of 5-AK-1M.

Illustration 2. Transmitter-Receiver 5-AK-1M

and Communication System, was unique to the Soviets and influenced heavily by the personnel served and controlled by it as well as the preceived Soviet notion of a slow moving war on the western frontier. The C² system was effective under peacetime conditions but largely untested under the combat conditions for which it was designed. Little thought, if any, had been given to the types of situations which developed during Operation Barbarossa. In time of war, it is often difficult to separate the national C² system from the military C² system, and actions taken by the Soviet Union during Operational Barbaros effectively merged these two systems so that a discussion of Soviet C² in general must include both.

A national strategic leadership body did not exist in the Soviet Union on 22 June 1941, a detail supported by the fact that there was no supreme command, supreme command headquarters facility, nor clearly discernable supreme commander.¹ As Marshal of the Soviet Union, V. D. Sokolovskii recounts:

"...We had not worked out the problems of strategic leadership of the Armed Forces by the beginning of the war. As a result, leadership in the command of the armed forces was quite inadequate during the initial period of the war."²

As Commissar of Defense, Marshal Timonshenko was the supreme commander but through political authority and sheer intimidation, Stalin was personally making all of the important military decisions,³ and was actually the supreme commander.⁴ There was no adequate command

¹See Erickson, Stalingrad, p. 114.

²Sokolovskii, Soviet Military Strategy, p. 252.

³The Great Patriotic War, p. 11.

⁴Erickson, Stalingrad, p. 126.

facility, uniquely dedicated or designated, from which the supreme commander could effectively exercise command and control. Accounts of activity in the Defense Ministry during the initial hours of Operation Barbarossa leave the impression that Marshal Timoshenko, and his assistant, General Zhukov, responded to the German attack from the desks in their offices.¹ No procedures existed for the use of command facilities available at either the Moscow Military District or the Air Defense Command Headquarters in Moscow. The lack of such procedures is further testimony of the inadequacy of Soviet Strategic C² on 22 June 1941.

The command structure was quickly modified on 23 June 1941 when the Central Committee of the Communist Party formed the Headquarters of the Supreme Command (Stavka) under the Defense Commissar, Marshal Timoshenko. One week later, on 30 June, the Central Committee, Supreme Soviet, and Soviet of the People's Commissars of the USSR created the State Defense Committee (GKO) with complete state and military power.² The GKO members were soon sitting as part of the Stavka and by 10 July the State Defense Committee had created three high commands (or theater level commands) to assist the Stavka exercise direct command of the troops. The high commands functioned in the field directly under the Stavka in Moscow and coordinated several fronts for the accomplishment of general strategic missions in specific geographical areas.³ As

¹See Erickson, Stalingrad, pp. 101-135 for an exceptionally detailed account of the initial hours of Operationa Barbarossa.

²Sokolovskii, Soviet Military Strategy, pp. 487-488.

³Ibid., p. 489.

As Marshall Sokolovskii points out,

"This decision of the State Defense Committee changed the Stavka of the High Command into the Stavka of the Supreme High Command under the direction of the Chairman of the State Committee of Defense...and in August it was placed under the direction of the Supreme Commander of the Armed Forces of the Soviet Union (Joseph Stalin)...

During the entire Great Patriotic War, the Stavka was the highest agency of strategic command for the Armed Forces. It was collegial agency. All the most important decisions were made after the Stavka discussed them with the front commands, the commanders-in-chief of the branches of the Armed Forces, the service commanders, as well as with other individuals concerned."¹

Following the reorganizations just described, the Stavka comprised selected members of the Politburo, the Chief of the General Headquarters and individual higher command personnel.² By August 1941, Joseph Stalin's consolidation of power was complete and he had refined centralization to a new degree as Chairman of the State Defense Committee, Defense Commissar (replacing Timoshenko who had been assigned to a theater command), and Supreme Commander.³

Changes were also made in the organization of the military as Operation Barbarossa progressed. As stated previously, portions of the military organization were in the process of reorganization on 22 June 1941 to bring the Red Army up to date with the more modern concepts of warfare employed by the Germans. The incomplete reorganization of Soviet tank forces resulted in large, unwieldy formations, difficult to control.⁴ The corps level, an integral part of the chain of

¹Ibid.

²Ibid.

³Erickson, Stalingrad, p. 180.

⁴Interview, von Luttichau.

Figure 4

Comparison of the Military Chain of Command

Strategic Levels

Tactical Levels

22 June 1941

10 July 1941

Supreme Commander

Supreme Commander

State Defense
Committee (GKO)¹

Stavka²

Commissar of Defense

Commissar of Defense

Theater³

Military District

Front⁴

Army

Army

Corps⁵

Division

Division

Regiment

Regiment

Battalion

Battalion

Company

Company

NOTES:

1. Formed 30 June 1941 with complete state and military powers to provide the leadership organ by which national decisions could be made and coordinated.
2. Headquarters of the Supreme Command (Stavka) formed 23 June 1941 under the Defense Commissar, placed under GKO on 10 July. The Stavka provided the General Headquarters lacking on 22 June with which Moscow could direct the military.
3. Formed 10 July 1941 to facilitate control of the fighting units by Stavka.
4. Military Districts transformed into Fronts during the first ten days of Operation Barbarossa.
5. Eliminated by 10 July 1941 due to a shortage of trained officers.

Figure 5

Comparison of the Military Chain of Command

	<u>10 July 1941</u>	<u>10 August 1941</u>
Strategic Levels	Supreme Commander	Supreme Commander
	GKO	Stavka ¹
	Stavka	GKO
	Commissar of Defense	Commissar of Defense
	Theater	Theater
	Front	Front
	Army	Army

Tactical Levels	Division	Division
	Regiment	Regiment
	Battalion	Battalion
	Company	Company

Note:

1. On 10 August Joseph Stalin as Supreme Commander approved a GKO recommendation which changed the Stavka from simply the General Headquarters into the Stavka of the Supreme Command.

Figure 6

Russo-German Frontier Military Districts
(22 June 1941)

Leningrad Military District: 14th, 7th, 23d Soviet Armies
sector: from the Barents Sea to the Gulf of Finland

Baltic (Special) Military District: 8th, 11th Soviet Armies
sector: 300 kilometers of frontier with East Prussia

Western (Special) Military District: 3rd, 10th, 4th Soviet Armies
sector: 470 kilometers of frontier, Belorussia

Kiev (Special) Military District: 5th, 6th, 26th, 12th Soviet Armies
sector: 865 kilometers of frontier, Ukraine (from Vlodava to Lipkany)

Odessa Military District: 9th Soviet Army (administrative only)
sector: from Lipkany to Odessa (defense of the Crimea assigned to independent rifle corps)

Note: According to Erickson, Stalingrad, p.71 the Special Military Districts were operational groupings capable of operations for a limited time without mobilization of additional reserves unlike the other Military Districts which were largely administrative organizations to facilitate reserve mobilization.

Information for this figure was derived from Erickson, Stalingrad, pp.68-69.

command on 22 June, was eliminated by 10 July because initial combat losses aggravated the already existing shortage of trained officers. Figure 4 illustrates the chain of command on 22 June 1941, and Figures 4 and 5 together highlight the changes that occurred during the first seven weeks of Operation Barbarossa in the national and military command structures. The military districts indicated in Figure 6 were peacetime administrative organizations for the mobilization of reserves and transitioned into fronts or essentially army groups in time of war. The military districts along the western frontier on the eve of the German attack are shown in Figure 6. As mentioned earlier, three high commands (theaters) were formed on 10 July to facilitate command of the troops by the Stavka and were designated by their geographical area of responsibility as the Northwest, West and Southwest Commands.¹

The Soviet system of command was clumsy and inflexible during the early days of Operation Barbarossa² when unexpected situations precluded quick response. The great distances between strategic fronts and the physical constraints of the Russian transportation system limited the Soviet options for defense by making rapid redeployment and large-scale movement difficult.³ The Soviet military and political leadership at the strategic level lacked a realistic view of the actual situation since it had underestimated the German potential while

¹Sokolovskii, Soviet Military Strategy, p. 489.

²Generalmajor Wilhelm Peterson, Campaign Against Russia (Employment of Second Army Engineers) (Foreign Military Studies Typescript #D-018 Historical Division USEUCOM, 1947), p. 8.

³Erickson, Stalingrad, p. 85.

over-estimating the Soviet potential.¹ The influences just cited combined to interfere with innovative, flexible responses to German offensive maneuvers and caused the selection of preconceived responses or responses patterned in strict accord with established doctrine. At the tactical level, officers and NCO's were reluctant to exercise initiative partly because they feared punishment for failures.² In situations where initiative was displayed, the highly centralized Soviet command structure facilitated higher authority review and punishment for actions perceived as inappropriate. The ordinary soldier simply followed the example set by his superiors and displayed the same lack of initiative. Many commanders who had been quickly advanced after the purges lacked the experience required for their positions.³ For some of these commanders, the war as it developed in the first days of Operation Barbarossa was simply beyond their comprehension.⁴ The lower command echelons in the Red Army characteristically suffered from poor leadership since the best leaders had risen to higher commands.⁵ German observers commented on command in the Soviet Air Force as awkward, old-fashioned, stereotyped and hampered by political control.⁶ Although the communist party

¹Sokolovskii, Soviet Military Strategy, p. 249.

²Reinhardt, Small Unit Tactics, Appendix I, p. 11

³The Great Patriotic War, p. 29.

⁴Erickson, Stalingrad, p. 123.

⁵Interview, von Luttichau.

⁶Schwabedissen, The Russian Air Force, p. 12.

activities in the Army may have exerted detrimental influences similar to those experienced in the Air Force, in at least one respect the party strengthened military command by adding robustness to the command structure, since the political officer was always available to replace the commander should he be removed unexpectedly by enemy action during combat.¹

Orders issued by the Soviets during the Great Patriotic War were generally clear² and, at least on the tactical level, simple.³ Due to the general lack of information from the front during the initial weeks of Operation Barbarossa, orders issued from Moscow were confusing⁴ and unrealistic until the Soviets gained an understanding of the true state of affairs.⁵ As Supreme Commander, Joseph Stalin issued the most important orders to his front commanders by summoning them to the Stavka or sending Stavka representatives to the fronts. Whether Stalin personally issued the orders himself or simply caused them to be issued in his presence is unclear, but the important point is that critical strategic orders were issued in person, and not by other means such as couriers or electronic transmissions.⁶ Reports from the fronts to Moscow were likewise presented in person⁷ and

¹Interview, von Luttichau and Finke.

²Interview, von Luttichau.

³Reinhardt, Small Unit Tactics, Appendix I, p. 10.

⁴Interview, Nekrich.

⁵Erickson, Stalingrad, pp. 101-135.

⁶Sokolovskii, Soviet Military Strategy, p. 492.

⁷Ibid.

during the first few days of the war, before the leaders in Moscow clearly understood the Soviet position, the Stavka sent representatives to the fronts to determine the true situation and to assist the front commanders to respond to the enemy advances.

Centralization was a key element in the Soviet Command and Control System and was a positive force in mobilizing the country and the military once the Soviets recovered from the initial devastating setbacks of Operation Barbarossa. During June and July 1941, however, the highly centralized Soviet C² System adversely affected the Soviet response.¹ As an example of the detrimental influence of the highly centralized Soviet C² System, consider that after the first two days of war, Stalin became inaccessible when he locked himself in his quarters for the next several days.² At precisely the time the Soviet Union required its most inspired leadership and when the very existence of the Soviet Union was most seriously challenged, the key figure in the centralized Soviet C² System was not available. During the first few days of the attack, the overly centralized command system also required commanders in the field to await orders from Moscow which arrived late, if at all, and were divorced from reality.³ Field commanders were in a better position to make their own decisions if for no other reason than the precious time that could be saved by eliminating additional communications from distant commands. As the war progressed, the

¹Interview, Nekrich.

²Erickson, Stalingrad, p. 139.

³See Nekrich, 22 June 1941, p. 220 for an account of a telephone conversation on 22 June between Marshal Timoshenko, Defense Commissar, and General Boldin, Deputy Commander of the Western Special Military District.

Stavka by-passed the fronts whenever the situation required and communicated directly with the various armies, although the fronts were always informed of the orders issued or information transmitted.¹ Considering that each front had evolved from a military district which had been basically an administrative grouping of armies, it is not surprising that the front was occasionally by-passed for operational expediency.

The Soviet leadership had prepared mobilization and defense plans but they were either incomplete or based on the erroneous concept of a leisurely war in the west previously discussed. Plans for the economic mobilization of the war industries² were ineffective and incomplete and special, crisis management techniques were required to supplement them.³ The 1941 defense plan for the west was predicted on the ability of the border units and frontier military districts to provide sufficient time for the mobilization of the main forces in the event of surprise attack.⁴ The adequacy of the 1941 defense plan certainly appears questionable today and so does the level of readiness of the units designated to implement the plan. Marshal of the Soviet Union R. Ya. Malinovskiy, a corps commander in the 18th Army during Operation Barbarossa, has written the following:

¹Sokolovskii, Soviet Military Strategy, p. 493.

²Nekrich, 22 June 1941, p. 195.

³Erickson, Stalingrad, p. 138.

⁴Nekrich, 22 June 1941, p. 68.

"Requests from some district troop commanders for authority to bring their troops to combat readiness and move them closer to the frontier were personally turned down by J.V. Stalin. The troops continued to be trained in peacetime fashion: the artillery of infantry divisions was in artillery camps and ranges, antiaircraft weapons on antiaircraft ranges, and sapper units in engineer camps, and the 'naked' infantry regiments of divisions were located separately in their camps."¹

The point is that despite massive outlays of men and equipment along the frontier, readiness levels required by the 1941 defense plan were not high enough to ensure the success of that plan against a surprise attack. The Soviet Union was continually improving its border defenses, and, on their own initiative, individual commanders were taking measures to improve their unit readiness. When these individual actions were discovered in Moscow they were frequently countermanded. Colonel-General Kuznetsov, Commander of the Baltic Special Military District, instituted on his own initiative, for example, a partial blackout of the naval bases and airfields in his district to reduce his vulnerability to possibly enemy intelligence activity. Colonel-General Voronov, Commander of the Anti-Air Defense Command (PVO), learned of this precaution and recommended it to the General Staff for adoption elsewhere. Moscow, however, based on the nonaggression pact with Germany countermanded Kuznetsov's order.²

Red Army Commanders exercised C³ in the field from severely austere facilities as the following account of an army headquarters on 22 June 1941 shows. 10th Army Headquarters- which at 2100 on the 22nd

¹See Nekrich, 22 June 1941, p. 198.

²See Erickson, Stalingrad, p. 83.

was located six miles southwest of Bialystok, consisted of only two tents, wooden tables and stools, one telephone truck, and a radio truck. This headquarters was the 10th Army's advance command post (CP) which at the army level consisted of from ten to fifteen men and included the following: the node of communications; cryptographic, operations, and intelligence personnel; political and state security personnel, liaison officers; and the commander. Farther back from the forward edge of the battle area (FEBA) was the first echelon of the CP, comprising the main staff effort under the chief of staff. Still farther behind the FEBA was the rear element of the CP which handled logistical matters.² Command posts in cities and villages were often located in school buildings since they were generally the newest brick facilities with sufficient interior space to accommodate a staff operation. Factories and administration buildings on collective farms were also suitable locations for CP's, in the absence of schools, but private dwellings were unsatisfactory due to the prevalent problem of pest infestation in Russian homes.³

Each headquarters, down to and including company level on the border, was issued sealed letters containing special orders for specific emergencies.⁴ It is apparently these same sealed letters to which John Erickson refers when he recounts the opening of 'Red Packets'

¹Ibid., p. 129.

²Interview, Nekrich.

³Interview, von Luttichau.

⁴Interview, Nekrich.

containing mobilization plans and cover plans, between 0430 and 0500 on 22 June.¹ These letters, or packets, contained orders to be opened by the commander under very specific circumstances, although it is unclear from accounts whether the letters were to be opened only upon direction of higher authority or upon the initiative of the individual commander.

Soviet maps used during Operation Barbarossa were adequate for intended purposes but were quite primitive by comparison with German maps of the same time.² There was apparently no system which allowed continuous use of maps by the Soviets, except for those portions of the map previously unused, since marks placed on the maps by the users were indelible. Soviet efforts to remove marks from maps resulted in the removal of the printed features and rendered the used portions of maps unserviceable. Unlike their German opponents, the Soviets had no mobile map production facilities to service the armed forces but relied on maps printed in the rear area, probably Moscow, which had to be delivered to the various units.

Intelligence information was critical to the Soviet system of Command and Control during Operation Barbarossa, and the surprise nature of that operation made the early warning phase of the intelligence function even more important than it had been previously. The Soviet Union had an excellent network of spies in foreign countries, especially

¹See Erickson, Stalingrad, pp. 119 and 121.

²The research team examined several Russian maps captured by the Germans and compared them with German maps of the same area used in Operation Barbarossa to arrive at the conclusions noted.

Germany and Japan, relaying very accurate, timely information to Moscow. Although the United States and Great Britain both warned the Soviets of German intentions regarding Operation Barbarossa, the Soviet leadership attached low esteem to these warnings since the Soviets considered them as efforts to undermine the relationship established by the Soviet Union and Germany through such agreements as the 1939 Nonaggression Pact. German soldiers defecting to the Soviet Union only hours before the attack relayed very accurate details of the impending attack,¹ but the Soviet leadership and Stalin in particular, discounted the possibility of a surprise attack of the dimensions of Operation Barbarossa and considered the reports as attempts by the Germans to provoke Soviet action. The individuals who provided intelligence information to Stalin, such as the Military Intelligence (GRU) Chief, Marshal Golikov, while not intentionally misinforming Stalin, evidently were well aware of Stalin's frame of mind before their meetings and presented intelligence in the manner least irritating to their leader.² Presentation of intelligence in such a fashion to Stalin, who had a firm preconceived notion of the type of war which might develop with Germany, reduced the value of the intelligence.

Several aspects of the Soviet intelligence system existing on 22 June were inadequate and deserve special mention to provide a better

¹See Erickson, Stalingrad, p. 105. One deserter, Alfred Liskow, crossing the lines at 2100 on 21 June 1941, reportedly stated the attack would commence at 0400 and that German guns were in firing positions. In response to a report from a deserter, Stalin, possibly referring to Liskow, ordered him to be shot for his disinformation.

²Interview, Nekrich.

general appreciation of Soviet C³ capabilities and limitations during Operation Barbarossa. Although the Soviet Air Force possessed operational reconnaissance aircraft, very few were located along the frontier. Fighter and attack planes designed for other specialized missions were employed instead in a reconnaissance role. When air reconnaissance did produce valuable intelligence, the Soviet Air Force system of processing the information and initiating a response was so slow that usually little effect was derived from air reconnaissance.¹ The air raid warning system was so inefficiently organized, even by Soviet standards, that fighter planes launched in response to warnings from the system usually arrived too late to provide adequate overhead cover for the Soviet forces.² The air defense forces (PVO) control system performed unsatisfactorily and only a reorganization of the forces and complete new air defense system could provide adequate air defense in 1941.³ The general usefulness of high level Soviet intelligence during Operation Barbarossa, is illustrated by the complaint of General Tikhamirov, chief of the operations section of the North-West Front, that the intelligence distributed to his front from Moscow in early July 1941 regarding the German forces in his area of responsibility was too general and inaccurate to be of value.

Immediately preceding and during the initial attack of Operation Barbarossa, the Soviet border provided a particularly important early warning capability. The 1939 Non-aggression Pact had apparently diminished the urgency for a quick, thorough completion of the facilities

¹Faber, Luftwaffe, pp. 228 and 231.

²The Great Patriotic War, p. 50.

³Sokolovskii, Soviet Military Strategy, p. 265.

were incomplete at the time of the German attack. The new Soviet border, resulting from the division of Poland, extended for almost 1200 miles from the Baltic Sea at the border of East Prussia and Lithuania, through Poland, along the eastern borders of Czechoslovakia, Hungary, Rumania, and Bulgaria to the Black Sea. Approximately 700 of these 1200 miles bordered German occupied territory. The border itself and the border units in the forward portion of the frontier region were the responsibility of the Interior. Immediately behind the border, no fewer than ten armies of the Defense Commissariat were located in the frontier military districts listed in Figure V and added depth to the border defense by deployment up to 300, and in some cases 600 kilometers behind the border. These forces were not positioned in accordance with any systematic plan of defense¹ and their supply points were close to the border itself and frequently located a considerable distance from the units and equipment they served.² Although the Red Army was very large and conducted active training in the border military districts during June 1941, it was none-the-less in a peacetime posture with artillery pieces located separately from stored ammunition and tank units located separately from their ammunition and fuel. The road network, which was so critical to the Soviet plan to reinforce the border, was incomplete on 22 June 1941.³

¹Basil Collier, The Second World War: A Military History (New York, 1967), p. 201.

²Sokolovskii, Soviet Military Strategy, p. 370.

³Interview, von Luttichau.

The sophisticated electronic sensors of today are quite different from the elemental sensors employed on the Soviet borders in 1941. There was no radar available on the border: instead, elementary sensors such as police dogs and humans were used.¹ Patrolling was employed on the Soviet side of the border but apparently very few patrols crossed the border, although local civilian inhabitants visiting on the German side were undoubtedly questioned concerning their observations of German activity.² The border itself was a barrier consisting of a barbed wire apron with a variety of primitive alarm signals. Behind the initial apron of wire was a strip of cleared, raked earth probably less than fifty yards in width to highlight footprints.³ Listening posts were located at regular intervals⁴ and wooden three-man guard towers about twenty-five yards high were erected approximately every 500 yards with telephonic and visual communications between the towers. Patrols with guard dogs covered the ground between the

¹Ibid.

²Interview, Nekrich.

³Apparently the width of this strip varied with the location of the border. For an excellent description of the border, along the Bug River in Poland, facing Army Group Center see Generalleutnant Curt Cano, German Preparations for the Attack on Russia (Unpublished Foreign Military Studies Typescript #D-247 Historical Division USEUCOM, 1947). See Generalleutnant Hans Bergen, Part Played by the 187th Infantry Regiment in the 87th Infantry Division Attack at the Beginning of the Russian Campaign on 22 June 1941 (Unpublished Foreign Military Studies Typescript #D-074 Historical Division USEUCOM, 1947), for an account of the border in East Prussia.

⁴Paul Leverkeuhn, German Military Intelligence (London, 1954), pp. 156-157.

towers.¹ Excellent field fortifications extended six to eight kilometers beyond the barrier² with the defensive facilities manned by squads or companies.³ Some new bunkers and artillery positions in this belt of defensive positions were still under construction and probably unmanned during June 1941.⁴ Behind the border was a security belt of approximately twenty miles from which inhabitants of certain areas were removed while in other areas they were allowed to remain but forbidden to shelter strangers.⁵

As the battle raged eastward, the border was no longer a significant intelligence source and the military relied on such intelligence gathering means as ground patrolling, air reconnaissance, and radio direction finding.⁶ The military probably also received information from less conventional sources such as civilian refugees and military stragglers fleeing from behind enemy lines. There are accounts of refugees actually seeking German units, ostensibly for food, but in reality to gather intelligence.⁷ The government in Moscow, while

¹Bergen, 187th Infantry Regiment, p. 6.

²Interview, von Luttichau.

³Cano, German Preparations, p. 4.

⁴Bergen, 187th Infantry Regiment, p. 6.

⁵Leverkeuhn, German Military Intelligence, p. 156.

⁶General der Nachrichtentruppen Albert Praun, Signal Communications in the East (Unpublished Foreign Military Study Typescript #P-1, Historical Division USEUCOM, 1954, p. 98.

⁷Ibid., p. 12.

receiving intelligence from the military, continued to receive information from other nations and agents in other countries, and undoubtedly received valuable information from local civilian officials who suddenly found themselves behind the advancing German Armies and sometimes continued to use the civilian telephone network eastward.

The Soviet transportation system in 1941, consisting essentially of the railroad and road network, was adequate for the needs of the Soviet Union as a moderately settled, developing nation. It was inadequate to serve large, modern military forces¹ and was considered the weakest factor in support the Soviet Armed Forces.² The Soviet Union was traversed by innumerable waterways of varying dimensions, but, during the opening stages of Barbarossa few water transportation systems were considered immediately important for operations. An impressive number of bridges was necessary, of course, to maintain the ground transportation system across the many rivers and streams. Since the Germans depended heavily on mobile spearheads and the Soviets had to maneuver large forces to parry the German thrusts, the bridges assumed paramount importance as to ensure the accomplishment of military movements via road and rail. Appendix B is an analysis of the Soviet Transportation System in 1941 by Generalleutnant Max Bork, a transportation expert with the German Army, and is the best account available of the Soviet Transportation System in relation to Operation Barbarossa.

Although the railroad was the most reliable transportation system

¹Abberger, Roads and Railroads in Russia, p. 2.

²Schwabedissen, The Russian Air Force, p. 50.

in the Soviet Union and provided the most practical means of accomplishing the massive, rapid, strategic maneuvers required of the Soviet Union in response to the German attack, the Soviet railroads were not as densely developed as those in other European countries. In 1938, the latest year prior to 1941 for which statistics are commonly available, the Soviet Union had only 0.65 miles of rail per 100 square miles as a whole with 1.80 miles per 100 square miles in European Russia, compared with the German railroad average of 20 miles per 100 square miles. There were only 3.30 miles of track per 10,000 inhabitants in Russia, around the industrial areas of the Donets Basin, Moscow, and Leningrad where the railroads were concentrated most heavily while all of Germany had 5.80 miles of track per 10,000 inhabitants. Signalling and safety devices were primitive compared with railroads in other countries and Russian track beds were constructed of sand and gravel instead of crushed-rock ballast used elsewhere due to a scarcity of rock. The standard railroad gauge in Europe was four feet, eight and one-half inches, but the Russian railroad gauge was five feet which allowed more loading space per car. There were no double-track railroad bridges in Russia; instead single-track spans separated by 50 to 100 yards had been constructed. Some of these bridges were temporary spans constructed during World War I, which would have been considered unsafe anywhere but in Russia.¹

The Soviet railroad assumes even greater importance when compared with the shallow system of roads in Russia in 1941. The road network satisfied the relatively weak demands of peacetime traffic but failed to meet the requirements of modern warfare.² The Red Army used some motor vehicles for transportation but much of its road transport

requirements were satisfied by horse-drawn means. Paved roads except in the larger cities were largely unknown in the Soviet Union. Concrete and asphalt were not used to construct rural roads. Cobblestones and graded crushed rock were used on a few main roads outside the cities but only in sections. Except in urban areas, paved roads were extremely rare and only four all-weather, hard-surfaced roads have been identified in western Russia during Barbarossa. The main roads were broad, hard-rolled and quite satisfactory, although dusty, in dry weather. They became bottomless after rain and snow at which time vehicles would widen the roads by driving around untrafficable areas.¹ In many German corps areas and sometimes entire army areas, there was not a single hard-surfaced road.² In the entire area of Army Group North, for example, there were only two all-weather roads capable of sustaining heavy traffic while all the other roads were weather dependent.³ In the opinion of Generalleutnant Bork, there was only one road in European Russia constructed in accordance with western European standards which received proper, consistent maintenance the-Minsk-Moscow Highway.⁴

Soviet Command, Control, and Communications, in general, was adequate for the primitive, peacetime requirements of the Soviet Union

¹ Sentzenich, 132d Infantry Division, p. 2.

² Abberger, Roads and Railroads in Russia, p. 3.

³ Generalmajor Burkhardt Mueller-Hillebrand, German Army Group Operations on the Eastern Front 1941-43 (Unpublished Foreign Military Studies Typescript #P-114a Historical Division USEUCOM, 1954), p. 9.

⁴ Bork, Russian Railroads and Highways, p. 6.

in 1941 before the German attack. The military C³ System was designed for the leisurely operations envisioned by the Soviets prior to Barbarossa. The Soviet C³ System, like the Russian transportation system, was not constructed to cope with an all-out, surprise attack executed by more than 150 German divisions and spearheaded by highly mobile Panzer and motorized infantry divisions.

Chapter 3

Barbarossa Overview

"More than any other event, military victory opens the way to the achievement of the Political and Economic Goals of War."

Erich von Manstein

The Soviets continue to be disturbed today by German Operation Barbarossa and the disintegrating effects which it had on the Soviet armed forces and the political state at the beginning of the Russo-German Campaign in June and July 1941. The total picture of the campaign, which extends from June 1941 - May 1945, a period of 48 months, tends to obscure the relative importance of the opening offensive. The Soviets emphasize, for example, their achievements in planning and executing the Stalingrad counteroffensive much later in the war. The Soviets also make it clear that the turning point in the campaign came with their uniquely Russian, defensive victory at Kursk in July 1943. Others in the West have been attracted by the vast, final act at Berlin in April 1945, and see that final offensive as a culmination of two and one half years of similar massive Soviet offensives. None of the actions noted above -- Stalingrad, Kursk, Berlin -- equal in importance the scope, effects, and gains of Barbarossa. The Soviets required four years of externally assisted efforts to overcome German gains associated largely with Barbarossa. From a slightly different perspective, the War in the East can be interpreted as consisting of two phases -- German Operation Barbarossa and the Soviet recovery from it.

The Barbarossa military operations were complex and can be considered as the historical events in the period from 22 June 1941 to the collapse of German offensive operations on 5, 6 December 1941 in the northwest suburbs of Moscow. Within that period, i.e., 22 June - 5,6 December 1941, which sets the full operational dimensions of Barbarossa, a clearly defined opening stage exists with Army Group Center in the area of the German effort in White Russia. Under the Command of Field Marshal Fedor von Bock, the army group seized the area around Smolensk during the period 22 June-24 July 41. The terrain comprises a land bridge between marshy and heavily forested regions to the north and south and the Germans determined it to be the crucial area in which they would pause and reorganize for the final attack against Moscow.¹ The unprecedented damage inflicted on an opposing military force by Army Group Center retained for the Germans the initiative in the war. On 24 July 41, the Germans (1) stood 100 kilometers east of Smolensk, (2) unopposed by anything which could be called a coherent defensive front, and (3) capable within a period of no more than approximately 10 days of rest and resupply² of attacking successfully against a stunned opponent on the central front. Army Groups North and South had also driven back and pinned down their opponents, freeing the larger forces in Army Group Center for a final thrust

1. Interview, Major General Peter von der Groeben, German Army (Ret.), Grabow, W. Germany, 25 January 80. Former assistant to the Ia (operations), Army Group Center.

2. See, for example, Panzer A.O.K.2., Anlagen, Band Nr. 40, K.T.B. Nr.1, von 23.6.1941 bis 31.2.1942, Bundesarchiv, Freiburg, RH 21-21 v. 171, XXIV Pz.K., Personnel and Materiel Standing of 27.7.41.



Illustration 3. GERMAN CONCENTRATION (AUFMARSCH) FOR BARBAROSSA: Shown above is a quiet Polish village between Suwalki and the White Russian border photographed on 21 June 1941. Although approximately two million German troops are massed close to the border north of the Pripyat marshes, they are carefully concealed in the forests of the region and movement takes place at night.

which would end the war in the East.

The German armies in Russia required at this time the assignment of a strategical objective, which would complete the disintegration of the Soviet armed forces and, through the physical location of the objective, prevent the continuation of the war even by a fanatical and well organized political enemy. Instead of the timely assignment of an objective conceived to be decisive for knocking the Soviet Union out of the war, the center group of armies stood immobile in the face of weeks of vacillation on the part of Adolf Hitler and then received the incredible order to attack southward into the Ukraine. It is a monument to the destruction wrought by Army Group Center in June - July 1941, that, after four weeks of recovery allowed the Soviets, the German armies drove southward on 26 August 1941 into the great victory of the Kiev cauldron in mid-September 1941.¹ It is further testimony to the success of the opening stages of Barbarossa, that the Germans regrouped themselves after Kiev hundreds of miles to the north and launched a great offensive toward Moscow on 2 October 1941 at Viasma and Bryansk.² In that region where the Soviets had now been allowed almost 10 weeks of largely unhindered recovery, the Germans achieved another victory. It is a final monument to the effects of June - July

1. The Germans took approximately 665,000 Russian prisoners in the Kiev battle, a figure roughly seven times greater than the number of Germans captured in the Stalingrad pocket by the Soviets.

2. The Germans took approximately 663,000 Russian prisoners in the Viasma-Bryansk battle, a figure also roughly seven times greater than the number of Germans captured in the Stalingrad pocket by the Soviets.

1941, that Army Group Center was capable of launching the autumn offensive of 14 November 1941 toward Moscow and succeeded in placing German combat soldiers in Khimki, a northwest suburb of Moscow.

The historical question which begs to be answered at this point is what would have been the result in the war in the East if the Germans had launched the attack at Vyasma and Bryansk shortly after their arrival in the vicinity around 24 July 1941. The answer to the question is beyond the scope of the present study. The fact that the Germans stood near Vyasma and Bryansk on 24 July 1941 in positions virtually identical to those from which they launched the great offensive toward Moscow on 2 October 1941, 70 days later, however, supports the following thesis which is central to this study. The Germans on approximately 24 July 1941 stood in positions from which they could have reached terrain far to the east of Moscow with concomitant destruction of the defending Soviet armies and occupation of the political, communications, and transportation center of Soviet Russia. The German achievement in June - July 1941, and the moderate projection of territorial gains in the event of a timely continuation of the offensive toward Moscow, reinforce a view of the opening stages of Barbarossa as the model of combat within which the Soviets would avoid being on the defensive and attempt instead to execute a Barbarossa in reverse.

Soviet writings and Soviet peacetime military maneuvers, for example, the Dneiper exercises of the mid-1960s, and the maneuvers in the region of the Western Dvina River in the 1970s, paint an uncomplicated picture of Soviet forces reacting during

peacetime to an anticipated attack from the West with an offensive of their own. The unique usefulness of Barbarossa in contrast with Allied offensive operations in Europe during the Second World War lies in the fact that it was a major offensive at the beginning of a war. The pattern in which the Germans prepared for Barbarossa, for example, the deceptions as to intentions, the execution of the Aufmarsch (concentration) of three million troops on an international border for an attack, the guiding principles under which the German armies operated in the opening stages of the attack, and the disruption of the relaxed Soviet peacetime command, control, and communication system, offer immense potential rewards for study by the Soviets.

The research team examined the German disruption of Soviet Command, Control, and, Communications (C³) during the opening stages of Barbarossa. The team reasoned that a systematic exposition of the disruption would provide a firmer historical basis for Western planners to understand the present Soviet emphasis on disrupting an opponent in the opening stages of an offensive by attacks on his C³. The task demanded the examination of the historical event, i.e., Barbarossa, and required in turn, at least the discussion if not the establishment of a reasonable historical analogy between Barbarossa and a potential, future historical event, i.e., Barbarossa II, a future Soviet military offensive in Central Europe. In order to gauge the effectiveness of the historical analogy, one can establish certain of the more important general factors, which operated in Barbarossa (1941), and balance them against similar general factors, which would operate in a potential Barbarossa II.

Figures 7 and 8 show several considerations which can be considered as general factors in Barbarossa-type offensives. The statements in Figure 1 are moderately couched, historically supportable statements which characterize the planning and execution of Barbarossa. The statements in Figure 8 include statements which are forecasts on the subject of a potential future concentration and attack by Soviet forces in Central Europe.

The Figures set forth identical factors to be considered in the same sequence and show striking differences and similarities between Barbarossa (1941) and a potential future Barbarossa II. The peacetime diplomatic situation and the qualitative military balance are immensely different, and the differences favor the NATO defenders in both cases. In the one case, the more tense diplomatic situation in Europe today and the highly alert posture of the NATO military forces reduce the chance of surprise and weaken the advantages associated with it. In the other case, the defending NATO military forces have a moderate qualitative superiority in terms of weapons and the hardware of C³, which would probably tend to reduce casualties to manageable proportions when taken in conjunction with the economies of force possible with a less exposed defender. The similarities between Barbarossa (1941) and Barbarossa II (Future) are equally striking, however, if one makes the forecast that the Soviet Armed Forces will be able to concentrate secretly and effect significant levels of strategic surprise and accompanying initiative and concentration of effort. It can probably be said

I. Barbarossa (1941) Planning and Concentration, (July 1940 - June 1941).

A. National Socialist Germany in Overtly Correct and Friendly Relations with Marxist Socialist Russia.

B. Germans Plan Barbarossa as an Offensive to Begin a War Within the Framework of Overtly Correct and Friendly Peacetime Foreign Relations.

C. German Military Plans Pivot on Assumption of High Quality German Armed Force Attacking Low Quality Soviet Armed Force at the Beginning of a War.

D. German Armed Forces Maintain Large Measure of High Level Political Military Secrecy, i.e., Strategic Secrecy.

E. German Army Maintains Large Measure of Tactical Secrecy.

F. Luftwaffe Maintains Large Measure of Tactical Secrecy.

II. Barbarosa (1941) Attack (22 June 1941).

A. German Army Achieves Large Measure of Tactical Surprise.

B. Luftwaffe Achieves Complete Tactical Surprise.

III. Barbarossa (1941) Initial Stages (22 June - 24 July 1941).

A. German Army Seizes and Maintains the Initiative and Concentrates its Effort Along Planned Axis of Advance.

B. Luftwaffe Seizes and Maintains the Initiative and Concentrates its Effort on First Mission of Air Supremacy and Main Mission of Tactical Air Support.

Figure 7. The General Factors
Operating In Barbarossa (1941).

I. Barbarossa II (Future) Planning and Concentration.

A. (Fact) North Atlantic Alliance in Correct but Guarded, Tense, and Unfriendly Peacetime Relations with Soviet Dominated Warsaw Pact.

B. (Assumption) Soviets Plan a Preemptive Offensive to Begin a War Within the Framework of Tense, Unfriendly Relations, and Soviet perceived Threat of Impending Attack by NATO.

C. (Fact) If a Soviet Offensive is launched in Europe, High Quality Soviet Forces Will Attack Higher Quality NATO Forces.

D. (Forecast) Notwithstanding the Tense, Unfriendly Political Situation in Europe and the Alert Military Stance of the NATO Forces, the Soviets Will Be Able to Maintain Secrecy in Preparing an Attack.

E. (Forecast) The Soviet Army Will Have Relatively Greater Problems in Maintaining Secrecy in the Concentration for an Attack than the Soviet Air Force.

F. (Forecast) The Soviet Air Force Units Supporting the Opening Offensive Will be Able to Concentrate for an Attack with Relatively Greater Secrecy than the Army.

II. Barbarossa II (Future) Attack.

A. (Forecast) The Soviet Army Will Achieve a Significant Element of Tactical Surprise.

B. (Forecast) The Soviet Air Force Will Achieve a Significant Element of Tactical Surprise.

III. Barbarossa II (Future) Initial Stages.

A. (Forecast) The Soviet Army Will Seize and Maintain the Initiative and Concentrate its Effort along Planned Axes of Attack.

B. (Forecast) The Soviet Air Force Will Seize and Maintain the Initiative and Concentrate its Effort on Supporting the Planned Scheme of maneuver on the Ground.

Figure 8. The General Factors
Operating in Europe Today

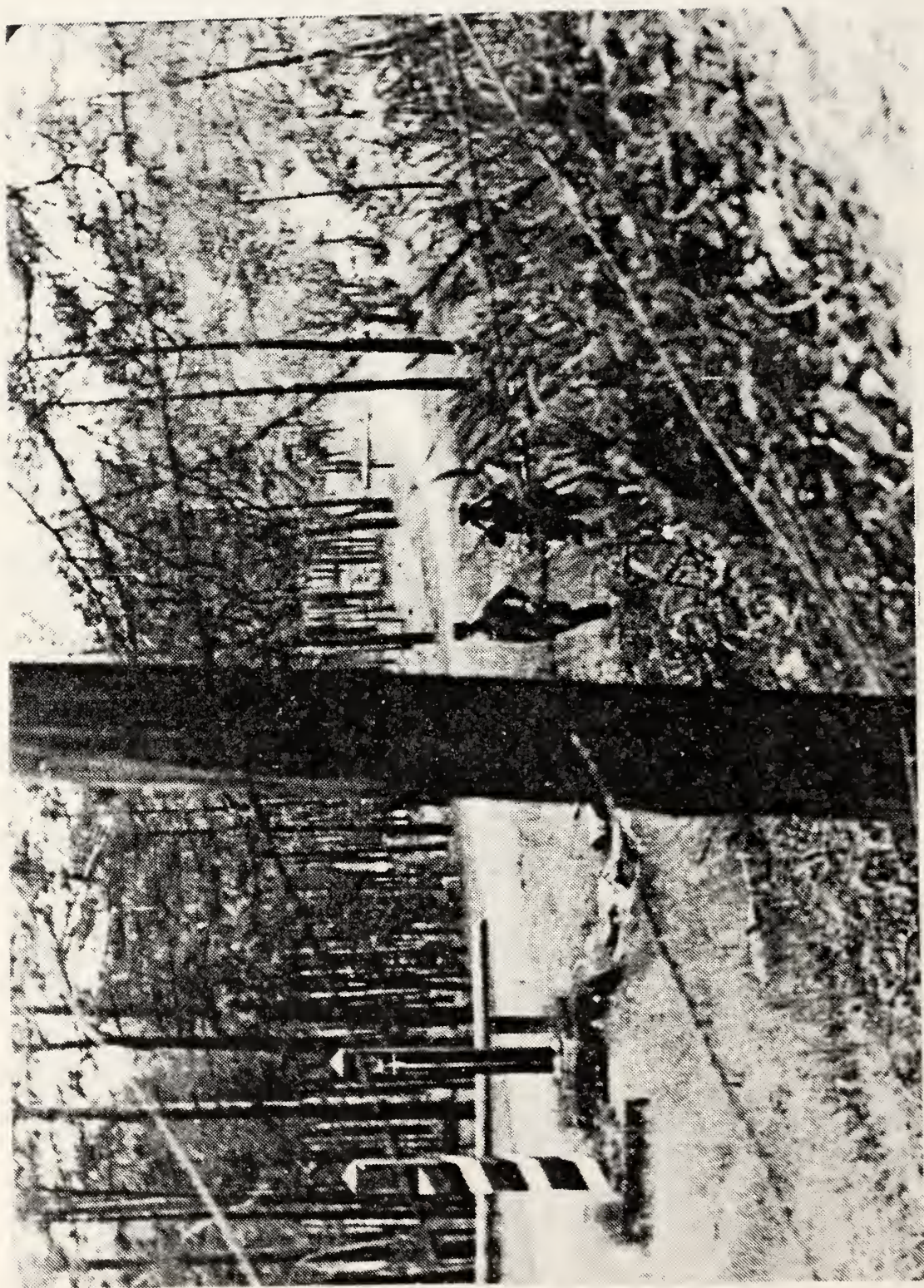


Illustration 4 . GERMAN CONCENTRATION (AUFMARSCH) FOR BARBAROSSA: Shown here on 15 June 1941, are Soviet border guards (Commissariat of the Interior) in line with the German frontier barricade near Kalety

overall, that the situation in Barbarossa II (Future) will be considerably more favorable to the defender than the situation in the planning and execution of the earlier epic. The lessons and warning of the opening stages of Barbarossa (1941), which will be examined in detail in the following chapters, would seem to be the gloomy ones, however, that the advantages of surprise, initiative, and concentration of effort, taken in concert with the initial numerical superiority of the Soviets, may outweigh the moderate NATO advantage in technology and certain economies of force associated with the defense. The anticipated NATO superiority in C³ equipment and the implied superiority in command may also be cancelled by successful Soviet attacks against NATO C³ installation based on the element of surprise.

Soviet military and political-military literature since the Second World War has emphasized several themes which the Soviets evidently feel are of special importance to the survival of Soviet Russia. Possibly the two foremost themes are those of (1) weapons technology, both nuclear and conventional, and (2) the lessons of the Great Patriotic War. The Soviets make consistent, terse, but decisive references to the opening stages of Barbarossa as comprising "terrible"¹ happenings which no Soviet government can allow to be repeated in any future confrontation with technologically advanced states. The evidence is strong that the Soviets have studied and are continuing to study Barbarossa and its aftermath in the light of advancing conventional and nuclear technology. The evidence is

1. See, History of the Great Patriotic War of the Soviet Union, 1941-1945, Vol. II (Moscow, 1961), pp. 11.

overwhelming that the Soviets will not place themselves in the position of repelling a Barbarossa type offensive but rather have ensured through long term political conditioning of the Soviet population and the development of offensive strategy and tactics that they will exploit the advantages seized by the Germans in launching Barbarossa. The great question which remains is: what, in fact, were the advantages seized by the Germans in launching Barbarossa? Evidence exists to support views that while the Soviets accurately appreciate the havoc wrought during the opening stages of Barbarossa, they still fail to understand the reasons for the German success in a wide range of perspectives varying from the historical necessities of Germany's political-geographical position through the immediate necessities of machine gun tactics in a ten-man infantry squad.¹

The Germans planned the Russian campaign and executed the vast Aufmarsch (concentration) in the period July 1940 - June 1941. The planning, concentration, and execution bear the unique stamp of German offensive operations. The stamp can be said to comprise the idea in war of a great battle of decision, or Entscheidungsschlacht, and flexible, independent decision making on the part of subordinate commanders in order to assure the success of the Entscheidungsschlacht. The Germans in severe contrast to the Russians had been forced historically to implement offensive military solutions to the problem of political survival. Barbarossa runs accordingly in a pattern of

1. See, for example, the prescient comments in General Ludendorff, My War Memories, 1914-1918, Vol. II (London, Hutchinson, no date) p. 574.

great military offensives including Königsgratz (1866), Sedan (1870), France (1914), Poland (1939), and France (1940). Almost as if the event were preordained, the Soviets received the impact in a consistent defensive pattern which runs from Poltava (1709), Moscow (1812), Sevastopol (1854-1855), Port Arthur (1904-1905), and Gorlice-Tarnow (1915). The German pattern of war, with its decisive offensive action at the beginning of all of the major conflicts in recent German history, was severely tested in Barbarossa. No other state in modern times has had the confidence, expertise, and strategical necessity to launch such an attack. Probably the most serious objection to the study of Barbarossa as a model for present Soviet strategy and tactics is the disparity in confidence and expertise between the German and Soviet military leadership in 1941, rather than the differences in technology between 1941 and 1980. An additional difficulty in using Barbarossa as a guide to future happenings is that the roles of the opponents are reversed, i.e., Soviet attackers with high quality leadership are assumed to attack NATO/West German forces which possess higher quality leadership. An historical analogy between Barbarossa and a contemplated future Soviet offensive at the opening of a war against the West, must be considered in the light of the factors noted above.

German planning for Barbarossa went through many iterations from the time of the beginning of planning by the Chief of Staff of the Army on 3 July 40 to the morning of the Attack. For purposes of this study, the complex picture at the higher levels of command, e.g., High Commands of the Armed Forces (OKW), Army (OKH), and Luftwaffe (OKL), can be summarized as follows. On the

one hand Adolf Hitler and certain immediate assistants, as directed by him in OKW, developed a course of action which emphasized the importance of the wings of the advance into the Soviet Union. Hitler added to the inherent diffusion of effort an economic argument about the necessary seizure of the grain and industrial resources of the Ukraine at the expense of immediate military victory. On the other hand, with solid professional military competence, the planners of OKH emphasized the necessity to defeat the opposing military force and seize "objectives", i.e., political - military terrain, which would ensure the military collapse of Soviet Russia. Army ideas and will power triumphed in the planning of Barbarossa. The Germans, as a result, concentrated 17 of the total of 32 motorized divisions employed in the opening days of the offensive, with Army Group Center north of the Pripyat Marshes in an attack directly toward Moscow. Only nine German motorized divisions attacked into the plains of the Ukraine and six into the forest, lakes, and swamp of the Baltic area. The Schwerpunkt, i.e., point of main effort, in Barbarossa lay with Army Group Center. Only a disastrous turn of events on the flanks or extraordinary reemphasis on their importance could prevent the Germans from seizing Moscow with the concomitant probability of the annihilation of the defending armies and collapse of the Soviet Union.

The OKH played out high level war games in several increments in November - December 1940. The war games were manual ones which involved a few high level commanders and staff officers, with maps, map tables, and orders of battle and deployments of

the opposing armies. The Germans set great store in such games and those of November - December 1940 influenced the Germans to reorganize Army Group South because of the resistance which it met in the games and the resulting losses and setbacks.¹ Lower level war games and map exercises were carried out by the newly designated army groups in February 1941 and map exercises were conducted by the field army and corps headquarters in April and May 1941. Division commanders were not aware that a war with the Soviet Union was planned until a few days before the commencement of operations on 22 June 1941. Similar emphasis on security and the achieving of surprise developed among the Luftwaffe planners. In the areas of Air Fleet 1 (Army Group North) and Air Fleet 2 (Army Group Center), none of the hundreds of air crews and individual pilots who took to the air just before first light to attack the Soviet Air Force opened their sealed envelopes containing target information more than eight hours prior to the launching of the attack.² By various means the German High Command systematically reduced knowledge of the impending operation among personnel of the Armed Forces, e.g., Erich von Manstein notes that as commanding general of LVI Panzer Corps, one of only ten panzer corps in the East, he was not made aware of the impending campaign until May 1941.³

1. See Walter G6rlitz, Paulus and Stalingrad (New York), pp. 110-112.

2. Interview, Major General Rudolph Loytved-Hardegg, Luftwaffe (Ret.), Nuremberg, W. Germany, 18 January 1980.

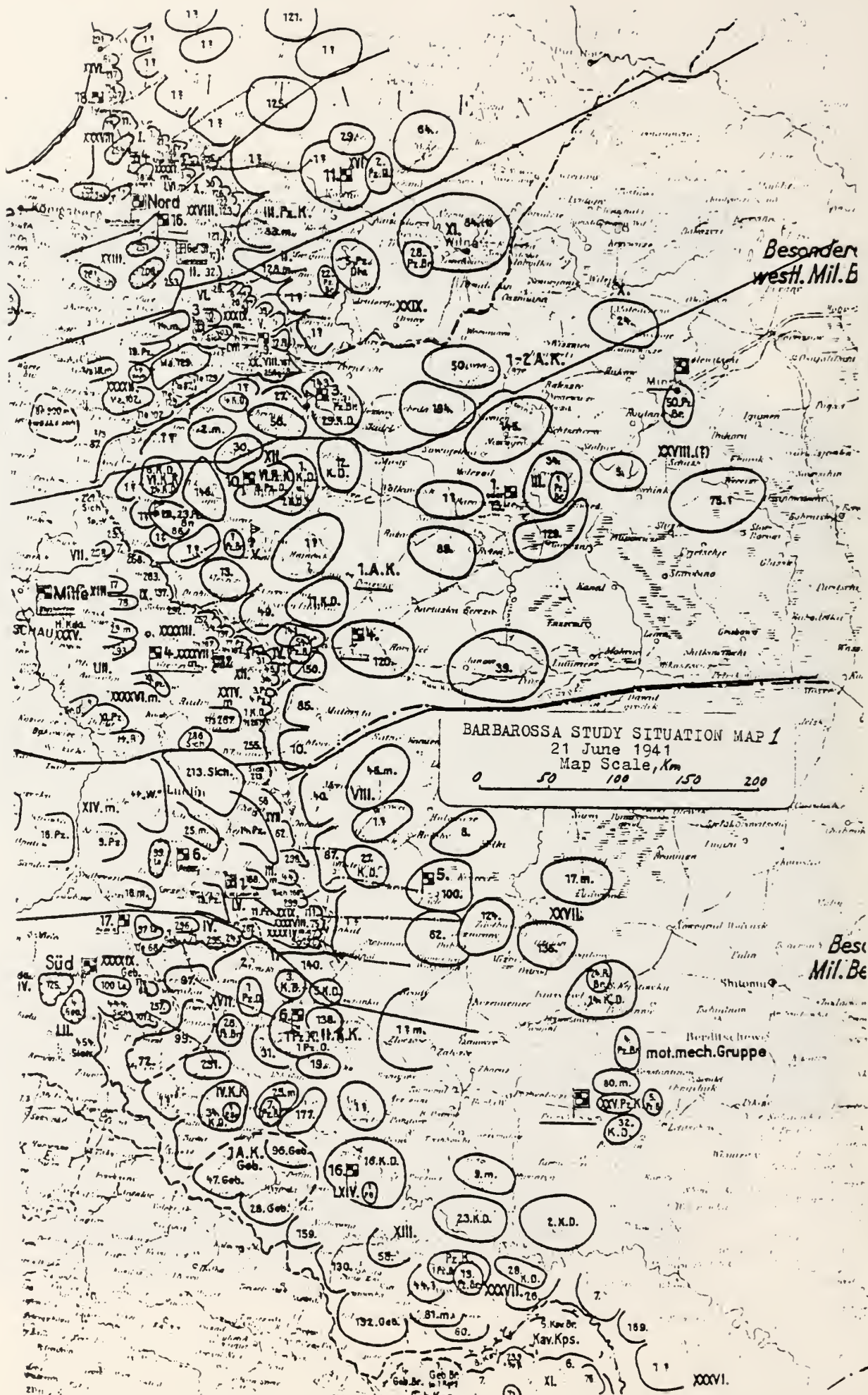
3. See, Erich von Manstein, Lost Victories (Chicago, 1958), p. 175. Only 12 mobile corps existed in the German Army at this time. The additional corps were XXXX Panzer Corps in OKH reserve and the newly formed Deutsches Afrika Korps (German Africa Corps).



Illustration 5. GERMAN COMMAND: In a forest, at a pine map table in White Russia, several of the more senior German commanders. From left to right, Field Marshal von Bock, Hermann Hoth, Baron Wolfram von Richthofen, and Walter von Huenersdorff. Field Marshal von Bock shows the direct and effective German combat command



Illustration 6. GERMAN COMMAND: Shown here at left, with his command car carrying the pennant of the 2nd Panzer Group, is General (German Generaloberst) Heinz Guderian, standing on an unpaved road and keeping at least two staff officers busy with instructions. German command style was characterized by the fluid, relaxed formality shown in the photo.



BARBAROSSA STUDY SITUATION MAP 1
21 June 1941
Map Scale, Km
0 50 100 150 200

The German government continued to operate under the Russo-German Nonaggression Pact of 23 August 1939, and maintained formal, correct diplomatic relations with the Soviet Union. The nonaggression pact was an extremely advantageous agreement for the Soviets both politically and economically. Under the agreement, i.e., with the sanction of the Germans, the Soviet government had swiftly and boldly occupied by armed force half of Poland, part of Finland, all of Estonia, Latvia, and Lithuania, and Bessarabia and the Northern Bukovina in 1939-1940. Heavy transfers of Soviet grain and German industrial products had taken place between the two states as well as the return of a substantial number of ethnic Germans who had formerly been forbidden to emigrate. Both states remained moderately tense over the issue of appropriate degrees of influence in Rumania and the question of the ultimate intentions of each. The correct behaviour of the Germans within the framework of the explicit nonaggression pact of 1939 constituted, however, an immensely successful political deception for purposes of launching a military campaign against the Soviets. The German political military situation in the West, where active air and naval fronts existed, and in the Mediterranean where major air, naval, and ground fronts existed, also tended to support a view that the Germans would not develop a new front in the East.

The German High Command had, in fact, issued the general directive for the campaign on 18 December 1940, and detailed planning at the level of Army Group through Corps proceeded from January - June 1941. The first basic question for purposes of this study is the degree to which the Germans planned to disrupt

Soviet command, control, and communications. Consideration of the basic question demands the definition of command, control, and communications (C³), which, on the one hand, is flexible enough to be generally acceptable, and, on the other, firm enough to allow systematic, structured analysis. An historical subtlety also appears which warns that the Germans in 1940-1941, notwithstanding the creation of a graceful, generally acceptable definition of C³ today, may not, in fact, have made such a distinction.

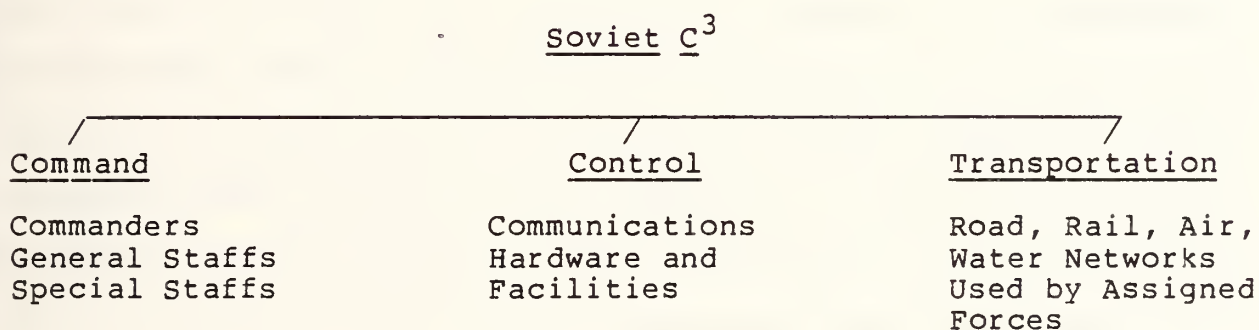
Various descriptions of C³ exist today based on the thoughts and experiences of various responsible military officers, scientists, and analysts. The following description of C³, which will be used for the sake of having a reference point for consideration, is based on four separate present-day authorities and certain flexible extensions embraced by the study:¹

Command, Control, and Communications (C³)

Command is the exercise of authority in the performance of missions by a commander and his staff. Command is exercised through a Control system which comprises the Communications facilities, equipment, and personnel essential for directing assigned forces. Transportation comprises the facilities and equipment used by the assigned forces to move in accordance with direction received from the commander through his control system. The commander directs his assigned forces within the framework of a clearly discernible historical style. The style and associated quality of command sets limits on the performance of the entire system. Those qualitative limits exist in addition to the technical ones imposed by the technical qualities of the communication facilities.

1. See, for example, the definitions of (1) Joint Chiefs of Staff, (2) Dr. Thomas Rona, Boeing Corporation, (3) Dr. Robert Conley, Chief Scientist, C³ Programs, Office of the Chief of Naval Operations, and (4) Dr. Richard Stark, Aerospace Corporation.

Use of such a definition results in a picture of Soviet Command, Control and communications which is probably more realistic and effective than one which neglects the transportation used by assigned forces to achieve the moves directed by the command and control system. The broader definition tends to dilute the picture of extraordinary emphasis placed on technically sophisticated control hardware in the West today. Command and Control systems exist, however, to direct the movements of assigned forces along existing transportation networks and it is probably most effective to consider those networks integrally with Command and Control. The integrated viewpoint is used in this study and results in the following generalized picture of Soviet C³ both in 1941 and today:



It is doubtful that the Germans hypothesized about Soviet C³ in terms of a definition such as that noted above, especially as concerns command and control. It is practically certain that the Germans considered the Soviet Union to be a continuous, homogeneous target in which commanders, staffs, control personnel, communications hardware transportation, terrain, and the Soviet field armies and air fleets were ranged together. Within the total picture which presented itself to German

military planners, it is practically certain that the Germans developed a plan of operations which concentrated on the destruction of as much as possible of the Soviet armed forces as close as possible to the western boundaries of the Soviet Union.¹ It can be argued that a particularly effective way of achieving such destruction would be by deft, surgical thrusts at the Soviet commanders and their control hardware to stun the motor system of the Soviet armed forces, i.e., command and control of the armed forces. It can also be argued that attacks concentrated against the Soviet transportation system would effect a paralysis of movement among the forces assigned to Soviet commanders, which would have effects virtually identical to those associated with a stunned command, i.e., paralysis of movement of the assigned forces, or, at the least, uncoordinated, costly attacks and misdirected movement. Neither stunning of enemy Command and Control nor disruption of an enemy transportation system, however, directly effects the destruction of armed forces, especially those operating relatively intact in their own homeland at the beginning of a war.

The twelve German participants in Barbarossa who were interviewed in this study, stated that the Germans did not single out Soviet C³ for attack either in the planning or execution of the campaign. The Barbarossa veterans agreed that Soviet C³ was important, but pointed out from the viewpoints of both staff and

1. See, for example, part one of The Fuehrer and Supreme Commander of the Armed Forces, Directive No. 21, Operation on Barbarossa, 18 December 1940, as reproduced in Heinz Guderian, Panzer Leader (New York, 1956), p. 513.

command experience, that the locations of Soviet higher headquarters and lower level command posts were largely unknown. There are some exceptions to their generalizations. In the first few days of the campaign, the Luftwaffe attacked several targets described as "suspected billets of higher level staffs" and photographs exist of a damaged villa-like structure which is identified as "Timoshenko's headquarters".¹ The civilian telephone and telegraph systems in the Soviet Union served as one of the most important means of communication for the Soviet armed forces, and the Luftwaffe recorded attacks on "telephone exchanges" in several of the larger cities in the path of the attacking German ground armies, e.g., Bialystok, Minsk, and Kiev. In the opening days of Barbarossa, the Luftwaffe was forced also to concentrate its meager resources almost entirely against the Soviet Air Force. As concerns attacks against the Soviet Russian transportation system, the Luftwaffe was faced with a complex, subtle picture which demanded that the bridges, roads, and rail lines in the path of the advancing German Panzer groups be left untouched while similar facilities along which the Soviets could withdraw come under continuous, effective attack, e.g., the main road from west to east through Bialystok described by the German infantry soldiers who passed over it as the "road of horrors."¹ The German plans and operations aimed directly at the destruction of the Soviet armed forces. The

1. See Generalleutnant Hermann Plocher, The German Air Force Versus Russia, 1941, USAF Historical Studies: No. 153 (New York, Arno Press, 1965) p. 41. See page 209 of this study for the Bundesarchiv, Koblenz, West Germany, photograph identified as "Timoshenko's headquarters".

superiority of German staff planning and the violence of the German advance ensured the disruption of Soviet C³ and the transportation system simultaneously with the physical destruction of the armed forces because of the necessary interrelationships among Soviet C³, the transportation system, and the armed forces.

In its attacks against Soviet air installations and aircraft, the Luftwaffe rendered the Red Air Force incapable of interfering with the advance of the German ground armies within the first 18 hours of the attack. One could almost say that the C³ system of the Red Air Force became extraneous in the face of the massive destruction of the air force aircraft, airfields, and personnel. The German field armies succeeded in their attacks in advances so rapid in the Soviet Western Military District (Minsk), that the Soviet C³ system in that area, which lies on the direct route to Moscow, became extraneous in the face of the encirclement of approximately 400,000 troops and 3,332 tanks within the first five days of the campaign. The Germans intended to destroy physically (1) the Red Air Force across the entire front, and (2) the Red Army especially in the Western Military District. One must observe, however, that the violence of

1. Interview, Major General Eberhard Wagermann, German Army (Ret.), Rheinbach, West Germany, 18 January 1980. Wagermann was a light infantry cannon platoon leader with a second echelon infantry division which marched over the road shortly after the air and ground attacks on the Soviet columns along it. Wagermann and the combat hardened German troops with him referred to the scene as the "road of horrors." Wagermann had already lost a leg in the Polish campaign but was able to participate in Barbarossa by riding a "small horse" and thus effectively keep up with the pace of combat associated with the infantry division.

the attacks, and the movement of the German field armies, succeeded in inducing the following trauma which constituted severe disruption of Soviet C³, but necessarily within the context of direct, physical destruction of the Red Air Force and the armies of the central front:

<u>German</u> <u>Attack Results</u>	<u>Soviet</u> <u>C³ Trauma</u>
(1) Casualties to Red Command	(1) Stun, Paralyze Command
(2) Destruction Red C ³ Hardware	(2) Disrupt Control
(3) Displace Red HQs & CPs	(3) Disrupt Control
(4) Air Atk Vs. Transport System	(4) Paralyze Movement of Assigned Forces
(5) Physical Overrunning of Transportation System	(5) Paralyze Movement, Encircle, Kill, Capture Assigned Forces
(6) Physical Destruction of Red AF	(6) Prevent Execution of C ³ Orders

At the highest governmental levels in Moscow, the Soviets experienced catastrophic C³ difficulties. For significant periods of time the national decision makers operated without current intelligence because of disrupted communications links. Communications, particularly telephonic communications, between the Stavka in Moscow and the Fronts and Armies seems to have operated consistently, but communications from the Fronts and Armies to subordinate commands were frequently shattered by German advances which displaced or destroyed the subordinate units.¹ In either case, the end result was one in which the

1. The Western Military District on 22 June is a particularly good example of this situation. On 22 June and for several days thereafter it had lost all but occasional communications of any type with its three subordinate armies, the 3d, 4th, and 10th. See Erickson, The Road to Stalingrad, Chapter 3, "The Sunday Blow."

Soviet leadership in Moscow was unaware of the situation at the front¹ and could not make intelligent, well-informed decisions. The Stavka often lacked the communications means to disseminate key directives quickly and to control the forces involved in counterattacks as in the case of Soviet Directive Number 1. In some cases the forces designated for counterattacks had already been destroyed.

One may logically deduce that the disruption inflicted upon the military communications system was also inflicted upon on the communications of the NKVD, Party, and government officials. It is difficult to determine the amount of disruption in the latter systems, but it seems reasonable to assume that when the other systems depended on the same communications facilities as the military system, the disruption was roughly the same in the other systems. When the other communications systems utilized facilities separate from the military communications facilities the other systems very likely survived longer than the military system because the civilian facilities were less obvious to the advancing German troops who were concentrating on military targets. As some authorities contend, it is very possible that Stalin was frequently better informed of battle developments than front commanders due to the separate Party Communications Systems.² It is hard to determine exactly how much better informed Stalin really may have been because of the frequent

1. Albert Seaton, The Russo-German War 1941-45, (New York, 1970), p.99.

2. Interview, von Luttichau, See also Seaton, The Russo-German War, p.85.

losses of communications at lower command levels and the problem of determining the value of a commodity when compared with something of no value

The initial response of the national leadership of the Soviet Union to the extensive failure of Russian communications was the 23 June appointment of Marshal I. T. Peresypkin, already the manager of the Chief Directorate of Communication of the Red Army, to the People's Commissariat of Communications.¹ Marshal Peresypkin employed several communications battalions to ensure communications between Moscow and the Fronts. His new assignment also permitted utilization of the state communications to support the fronts and allowed military communications to augment the state as required. After only one day of battle, Soviet leaders were also painfully aware of the gross inadequacies of the governmental and military command structure, particularly its inability to cope with the scope and tempo of the German invasion. The Soviet Government and the Communist Party immediately began to formulate a politico-military command structure capable of responding militarily and economically to the German attack. During Barbarossa this command structure constantly adapted to the German threat and included the addition and deletion of several echelons of authority and decision making bodies.

The paralyzing influences cast upon Soviet C³ by the German Wehrmacht during the initial days of Operation Barbarossa were not transitory although they did diminish in intensity as the

1. History of the Great Patriotic War of the Soviet Union 1941-1945, p.174.

battle moved eastward and Soviet lines of communications shortened.¹ The Germans aggressively maintained their offensive pressure to achieve their primary objective of eliminating Soviet combat forces and in so doing proliferated new C³ disruptions and perpetuated existing disorders. Reeling from several quick, stunning defeats, the Soviets attempted to recover from the surprise of the German attack and stem the advancing German tide in one coordinated move contained in Directive #3. Given the confusing state of affairs existing in Russia during June, a maneuver of such grand proportions could have overstressed the Soviet³ System even without the disruption produced by the Germans.

A multitude of chance counter-C³ occurrences was also inevitable in an armed conflict of the proportions of Operation Barbarossa. The planning and execution of the great encirclements of Barbarossa were remarkably successful and those encirclements produced immense disorder in Soviet C³ even though their basic purpose was to destroy the Soviet combat forces. Operations supporting the great encirclements, for example, air strikes and commando activities, were also very successful and produced additional disorder in Soviet C³. What is difficult, perhaps even impossible to describe, are the counter-C³ effects of those targets of opportunity fired upon, seized, or destroyed by German forces in the field. As only one example of this phenomenon, consider the advance of the 620th Mountain Engineer

1. Interview, Nekrich, Boston, Jan. 80.

Regiment after it crossed the Upper Dvina and seized the village of Berilawlj in July 1941. After a brief exchange of rifle fire, elements of the battalion seized a nearby collective farm at 0530. As part of the attack process, the troops immediately disconnected the telephone at the farm, as they had in the village. The German soldiers carried out this act rather casually but nevertheless in an almost habitual manner.¹ This particular incident involved only two telephones. But how many phones were destroyed, wires cut, or messengers intercepted by German soldiers, performing routine duties, who had no idea of their contribution to the disruption of Soviet command, control, and communications?

The German attacks against the Red Air Force and the Red Army were so effective in disrupting the Soviet C³ system that the two Soviet participants in Barbarossa who were interviewed in the course of the study stated that they felt the Germans had a systematic doctrine of attack against Soviet C³.² Not one of the twelve Germans interviewed and no document or book examined in the study hints of a systematic German doctrine of attack against Soviet C³. Every one of the Germans interviewed and every pertinent document and book examined supports a view of the disintegration of Soviet C³ in front of German Army Group Center and its severe disruption opposite Army Groups North and South. One is forced to conclude that the German formula for attack

1. E. Schmidt, Small Unit Tactics, (unpublished, 1952), in files of U. S. Army, Office of the Chief of Military History.

2. Aleksandr Nekrich and Kamill Usfensky, both interviewed in Cambridge, Massachusetts, January, 1980.

against the Red Air Force and Red Army was so effective that simultaneously with the destruction of the field forces, it stunned, paralyzed and disrupted Soviet C³. Such a conclusion raises several significant questions, the answers to which are important to the military survival of the West in the event of a war opened by a Soviet conventional attack against West Germany.

First: do the Soviets agree with the generalization that vast Soviet field forces were destroyed and the associated commands lost control of their assigned forces? The answer to such a question is probably yes. The great debate which raged in the Soviet Union between 1945-1953 over the lessons of the great patriotic war pitted the concept of the advantages of surprise versus those of the great natural strengths of the fatherland and associated inevitability of victory. The more purely military actors in the debate emphasized the advantages of the element of surprise which had been exploited by the Germans. Josef Stalin personally led the opposing element which emphasized long-term factors which eventually contributed to victory in the painful four-year aftermath of Barbarossa. References can be found in Soviet literature which has appeared since the debate indicating that the carnage wrought by the Germans in the opening weeks was immense and unacceptable, thus driving the Soviets by implication to seize the advantages offered by a Barbarossa-type opening move at the beginning of a war. The study also supports a view that, in fact, the Soviets lost the flower of their peacetime army ¹ and the Soviet High

1. Note the conclusions in Alan Clark, Barbarossa, (New York, 1964), pp. 84, 85, 148, 149.

Command itself lost control of events on the road from Bialystok to Moscow.

Second: what was the measure of the German victory and what were the reasons for it? The question is the most important for purposes of the study because the answer to it can provide specific historical insight into the practical necessities of Soviet strategy and tactics. The answer to the question raises difficulties, however, which must be carefully addressed. The Soviets, for example, even if they have detected certain German methods of operation, which gave the Germans special advantages within the framework of Barbarossa, may not be able or willing to duplicate such methods of operation. On the other hand, if one concedes that the Soviets have carefully studied the Second World War in Russia, a parallel, first hand study of the part predominated in by the Germans has substantial chances of agreeing on similar historical lessons. The Germans in fact seized certain strategical advantages and operated with a characteristic strategic and tactical style which can be outlined as follows:

Advantages Seized:
Barbarossa-Type Operation

- (1) Strategic Surprise
- (2) Tactical Surprise.
- (3) Concentration of Effort.
- (4) Initiative.
- (5) Operational Experience.

Advantages Held: German
Military Historical Style¹

- (1) Entscheidungsschlacht Concept.
- (2) Auftragstaktik Concept.
- (3) Schwerpunkt Concept.
- (4) Extreme Emphasis on Training.
- (5) Superiority in Small Unit Tactics.

1. Auftragstaktik refers to mission style operational orders.

Schwerpunkt translates as point of main effort.

Entscheidungsschlacht translates as battle of decision.

The advantages seized or held by the Germans at the beginning of Barbarossa comprise a formidable list which the Soviets have attempted to simulate as closely as their own historical style will allow for the situation in Europe. The Soviets have probably reinforced the list with advantages based on their own unique perception of effectiveness in combat and advantages systematically culled from advances in technology. The present Soviet concept of a preemptive counterstrike within a framework of political and military tension leading to war in Europe, is based on the perceived advantage of surprise or, at least, the seizure of the initiative at the beginning of a war. Such a concept stems directly from the Soviet perception of the disastrous results achieved against Soviet Russia in 1941, which were based on successful German achievement of surprise and seizure of the initiative. The Soviets today, however, are faced with a less favorable political situation for the achievement of military surprise because of the tense and unfriendly political relations between the Atlantic Community and the East European states from 1945 - present. The Soviets can probably achieve, nevertheless, a substantial if not complete surprise attack against the West through a phased, carefully concealed, patient concentration of mobile forces against West Germany.

The expertise with which the Germans exploited the surprise achieved in the concentration of troops up to 0305-0315 22 June 1941, represents perhaps more than half of the picture of German

success in Barbarossa.¹ German historical style demanded either an Entscheidungsschlacht (battle of decision) or in the case of a vast theater of operations, a linked, continuous series of decisive battles leading to a military victory in the campaign. The necessity for such a battle with its emphasis on the annihilation, i.e., killing or capturing of the opposing military force, is the leading reason for the absence of a specific German doctrine of attack against the C³ of the Russians, French, Poles, etc. The general concept of the annihilation of an opposing military force comfortably encompassed a modus operandi in which enemy C³ was shattered as a necessary by-product of the general advance. Manstein notes, for example, the following results of the Panzer drive of LVI Panzer Corps through Lithuania from 22-26 June 1941: "A tank drive such as 56 Panzer Corps made to Dvinsk inevitably generates confusion and panic in the communication zone; it ruptures the enemy's chain of command and makes it virtually impossible for the enemy to coordinate his counter-measures."²

The fact that the Germans embraced the concept of a great decisive battle, applied that concept to Operation Barbarossa, and successfully achieved surprise in the opening stages of the campaign still did not assure them of victory in the war in the East. The Germans came close to outright military victory in July

1. The Germans attacked with artillery fire and/or movement of infantry and tanks across the Soviet border at 0305 in Army Group North and 0315 further south in Army Groups Center and South.

2. Manstein, Lost Victories, p.186.

1941 and the Soviets required four additional years of combat and the loss of approximately twenty-five million lives to share with the United States, British, and the Free French governments a victory over the Germans. The reasons for the German success in June - July 1941, lie also in advantages held by the Germans in terms of the spirit and style in which they conducted military operations. Through study of the war, the Soviets have probably come to understand the German advantages in varying degree, but it is doubtful that they have developed the capabilities to attain the same condition. The German advantages lay in the achievement of the Auftrag concept of operational leadership and the Schwerpunkt elaboration of the concept of concentration of effort, in combination with a new idea of flexibly organized combat groups. The Germans seasoned their effective historical style with a basic superiority in training and in small unit tactics.

Auftragstaktik describes a concept which comprised the issuing of mission type orders covering the longest periods of time possible in any given situation. Under the concept, German military leaders gave brief orders which elaborated on missions to be accomplished but left the methods of accomplishment to subordinate commanders. Within the Auftrag concept of operations, commanders emphasized the point of main effort, or Schwerpunkt, of the command, especially on the offensive. The concepts enumerated provide convincing reasons why the Germans in Barbarossa had no specific doctrine of targeting Soviet C³ but nevertheless stunned the Soviet command, disrupted control, and paralyzed movement along the transportation system. With the

concept of the Entscheidungsschlacht, the Germans focused on quick military victory through a battle of annihilation. Within such a concept, specific, elaborate destruction of Soviet C³ was extraneous. The general violence of the attack with the deep, paralyzing thrusts of the Panzer formations, the achievement of air supremacy by the Luftwaffe, and the superiority of German artillery and machine gun tactics, swept everything before it. Within the concept of Auftragstaktik, German commanders did not elaborate on the details of how to annihilate the enemy in the decisive battle. The concept demanded the maximum, independent performance from each subordinate commander, who could scarcely be given the mission of annihilating an enemy in a particular area and then be directed to employ a significant part of his force to attack C³ targets. The Schwerpunkt concept, in contrast, demanded simply that once a subordinate commander decided how to maneuver his formations to annihilate an enemy, he would without exception designate the point of main effort, e.g., "Schwerpunkt right," "Schwerpunkt left," "Schwerpunkt with Infantry Regiment 86," etc.

The German historical condition and the military style associated with it, accounts for the triad of (1) the decisive battle, (2) mission type orders, and (3) points of main effort in the German planning and execution of major offensives at the beginning of a war. The triad represents a significant bit of intellectualizing about the way the Germans operated and the reasons for their virtuosity in the conduct of military operations. The Germans, however, did not annihilate an enemy with intellectual concepts, although it can be argued fairly that

such concepts are closely bound to the violence and action which they suggest. They did annihilate Soviet forces with the fire of machine guns, howitzers, and tank cannon, the release of bombs, etc.. The German tactical units conducted the annihilating fires and related maneuvers with uniformly greater efficiency than the Soviets. The resulting German success was based on exceptional training, sophisticated small unit tactics, and extraordinary flexibility in the formation of combat groups. Training and small unit tactics in the German Army held probably a more important position than in any other army. Such a statement is supported by (1) the extraordinary German Tactical Training programs of the winter months during the First World War, which led to the famed infiltration attacks of 1918, (2) the specific delineation of the machine gun as the primary offensive weapon of the army, and (3) the training in the interwar Reichsheer in which officers, non-commissioned officers, and soldiers were instructed in the duties of personnel one, and, in some cases two ranks higher than their own position. The Germans used firing tables with their heavy machine guns, e.g., in the German case, a light air-cooled gun on a tripod, in order to shoot indirect fire missions in support of the infantry, and one of the more important infantry attacks of the Second World War, the German parachute counterattack back into Cassino from Monastery Hill in March 1943, which stabilized the German position for a further two months of combat in Italy, was supported exclusively by a concentration of direct and indirect machine gun fire. The equipping of the German heavy machine gun with a telescopic sight, the lavish equipping of machine gun squad leaders with

binoculars, and the special attention given to the design of the light machine gun, are additional factors which point to extraordinary German emphasis on small unit tactics.

The appearance of the Soviet T-34 tank with its heavy, sloped armor, advanced 60° V-12 (Model V-2) diesel engine, and moderately high velocity (662 m/sec), large 76.2mm tank cannon, and several other highly respectable pieces of ordnance has tended to obscure the superiority of several German weapons. The Germans in the interwar period designed the MG-34, which was probably the most advanced and effective machine gun in the world in the Second World War.¹ The MG-34, which existed in light, heavy, and tank armament versions, equipped virtually all of the German divisions operating on the eastern front in June - July 1941. With its moderate weight (approximately 24 pounds unloaded), exceptionally high cyclic rate of fire (800-900 rounds per minute), self-leveling bipod, and plastic components, the MG-34 gave the German infantry and motorized infantry squads a superior weapon of decision for dealing with the Soviet rifle squads of 1941. Armed with reliable but excessively heavy, clumsy, wheel-mounted air and water cooled machine guns with lower rates of fire, the Soviet infantry was dominated by the German infantry squads.

1. The MG-34 began to be replaced in 1942 with an improved, less expensive version designated MG-42. The judgment on effectiveness is made within the context of the MG-34 and follow-on MG-42 family of weapons and supported by similar judgments in W.J.K. Davies, German Army Handbook (N.Y., 1977), pp.137,139; A.J.R. Cormack, German Small Arms (N.Y., 1979), p.85; and A. J. Barker, German Infantry Weapons of World War 2 (N.Y., 1969), p.47.

The superior German squad machine guns and related superior small unit tactics exemplify the other half of the reasons for German success in Barbarossa in contrast to the more cerebral factors of strategic surprise, Auftragstaktik, and the assignment of Schwerpunkten. The potential for violence with German machine guns comes into clearer focus when one realizes that within approximately 48 hours of H-hour on B-day, the Germans had moved approximately 45,000 infantry squads into the Soviet Union each built around an MG-34. The German potential for violence must also include the body of approximately 1,500 Panzer III and Panzer IV type tanks which were clearly superior to the great mass of approximately 18,000 Soviet T-26, BT-5, and BT-7 vehicles. The German Panzer III and IV tanks were in turn inferior to the Soviet T-34A and T-34B tanks in gun armament and armor thickness but had more effective command control equipment and superior optics and fire control apparatuses. The Germans also "established air superiority and even more", perhaps something which could be described as air supremacy, or "total rule" in the air.¹ By the third day of the campaign, the Luftwaffe began to intervene on the ground with attacks by level, dive, and fighter bombers which disrupted the Soviet transportation system and inflicted significant casualties and damage on troop formations. The Germans focused the combination of strategical initiative and tactical efficiency on the destruction of the opposing Soviet military forces. Simultaneously and as a function of the violence of the attack,

1. Interview, Hardegg, Nuremberg, Jan 1980.

the Germans inflicted immense casualties and damage on "the major enemy groupings" and demolished their C³.¹

1. General of the Army S.P. Ivanov, The Initial Period of the War (Moscow, 1974), p. 299. Ivanov makes the point that the "chief content of the initial offensive operations of the Nazi troops was the defeat of major enemy groupings."



CHAPTER FRONTISPIECE:

Flexible, aggressive, and confident, the German Army exploited the advantages of surprise, initiative, and concentration of effort to destroy the Soviet defenses on the Western Front. At the time the photo above was taken (approximately 13 July 1941), the Germans stood close to victory in the war. Lt Reinders (map in hand, second from right) above, leads a rifle platoon of the 3rd Panzer Division

Chapter 4

The Army Attacks

"It is of decisive importance for the breakthrough to push forward as far as possible without regard to danger from the flanks, with maximum use of the mobility afforded by our tank engines, without rest or rest days, and with movement at night, limited only by the distance which fuel supplies will allow."

(Army Group Center, Panzer Group 2, XXXXVII Panzer Corps, Order Number 1 for the attack against the Soviet Union, dated 13 June 1941)¹

It was still dark but the weather was near perfect with warm temperatures and only a few clouds in the night sky. Unlike the scene a year earlier and 800 miles further west, where an airborne assault had dictated the time for an attack, the German Army mandated the onset of civil twilight as the time for the beginning of the new operation.² The new operation was big by any standard. It was to be the biggest offensive in military history. The time was about 0300, and Barbarossa was soon to unfold.

German assault troops lay in the summer grass, behind railway embankments, in ditches along the unpaved roads, in forests, and along the banks of rivers stretching from the Baltic Sea to central Roumania. More than 45,000 infantry squads lay there,

1. XXXXVII Panzer Korps, Anlagen Nr. 1-100, Kriegstagebuch Nr. 2, 20.5-27.6.1941, Bundesarchiv, Freiburg, 13468/1.

2. The Luftwaffe preferred to attack after first light and before the Army in order to catch the Red Air Force on the ground and unwarned by the opening of operations by the Army. The Army demanded that the attack go in at first light even though the Luftwaffe would need upwards of 35 minutes after that time to reach the first targets, i.e., the Soviets would have 35 minutes to take off and escape the consequence of strategic and tactical surprise. The Army won the struggle but in turn ran into difficulties in setting the exact time for the attack.

not smoking, not talking, in almost total darkness. The potential for violence was great: 360,000 loaded rifles, 45,000 belted or drummed light machine guns, and 45,000 magazine-heavy machine pistols. Almost 3,200 tank crews manned silent, darkened vehicles whose engines in minutes would announce the advance of three quarters of a million tank horsepower into the Soviet occupied parts of Lithuania, Poland, and Roumania. More than 900 combat aircrews worked their way into tactical formation over their bases and began the run to the Soviet frontier in the final minutes before civil twilight from airfields averaging about 100 km back from the borders. The hammer was raised. What about the anvil?

Except for several areas in the sector opposite German Army Group North, where some Soviet units had gone into defensive positions near the border at approximately the time of the attack, the Red Army lay sleeping. The Soviet troops slept in primitive wooden barracks, open summer bivouacs, or in civilian quarters on leave passes with friends in the villages and cities of the recently expanded, western Soviet Union. They slept in a somber landscape that stretches through the great forests of Lithuania and White Russia, the swampland of the Pripyat Marshes, the foothills of the Carpathian Mountains, the grassy plains and deep ravines of the Ukraine down to a southern sea. The men of more than 40,000 Soviet rifle squads in an immense peacetime army lay sleeping in the relaxed disarray of an early Sunday morning. More than 10,000 Soviet tank crews slept near a huge number of armored vehicles spread liberally among the Soviet infantry divisions and concentrated in greater numbers in nine

mechanized corps in the western Soviet Union. Approximately 7,000 air crews manning the same number of military aircraft lay in billets in and around dozens of formal air bases and a greater number of small tactical air strips.¹ The Soviets had also approximately 7,000 additional tanks and 5,000 additional aircraft capable of being fed into the conflict in the event that it lasted for more than several weeks and the crews could be mobilized and linked with the machines. Production of more modern tanks and aircraft was also just beginning to accelerate in the middle of 1941, and a huge pool of military manpower was available to expand the Red Army and Air Force far above the peacetime figure of approximately 2,500,000 personnel. Never had such a formidable anvil been struck by so relatively small a hammer. The Germans needed something special indeed to compensate for the gross numerical deficiencies in the attacking force and several qualitative deficiencies which would soon be revealed.

Probably the single most important strategic advantage that the Germans would attempt to seize at first light on Sunday 22 June 1941, was surprise. Surprise was the strategic commodity which would enable the Germans to seize the initiative and concentrate their field armies on achieving a clear cut military victory within chosen space and time. Surprise could compensate for a general deficiency in numbers and several specific

1. Interview, Maj. Gen. Rudolf Loytved-Hardegg, Air Force (Ret.), Nuremberg, W. Germany, 18 Jan. 80. Loytved-Hardegg stated that as intelligence officer for Luftflotte 1, but with planning responsibility to locate the Soviet military airfields in the entire western Soviet Union, he and his assistants identified "2,000-2,200" such fields.

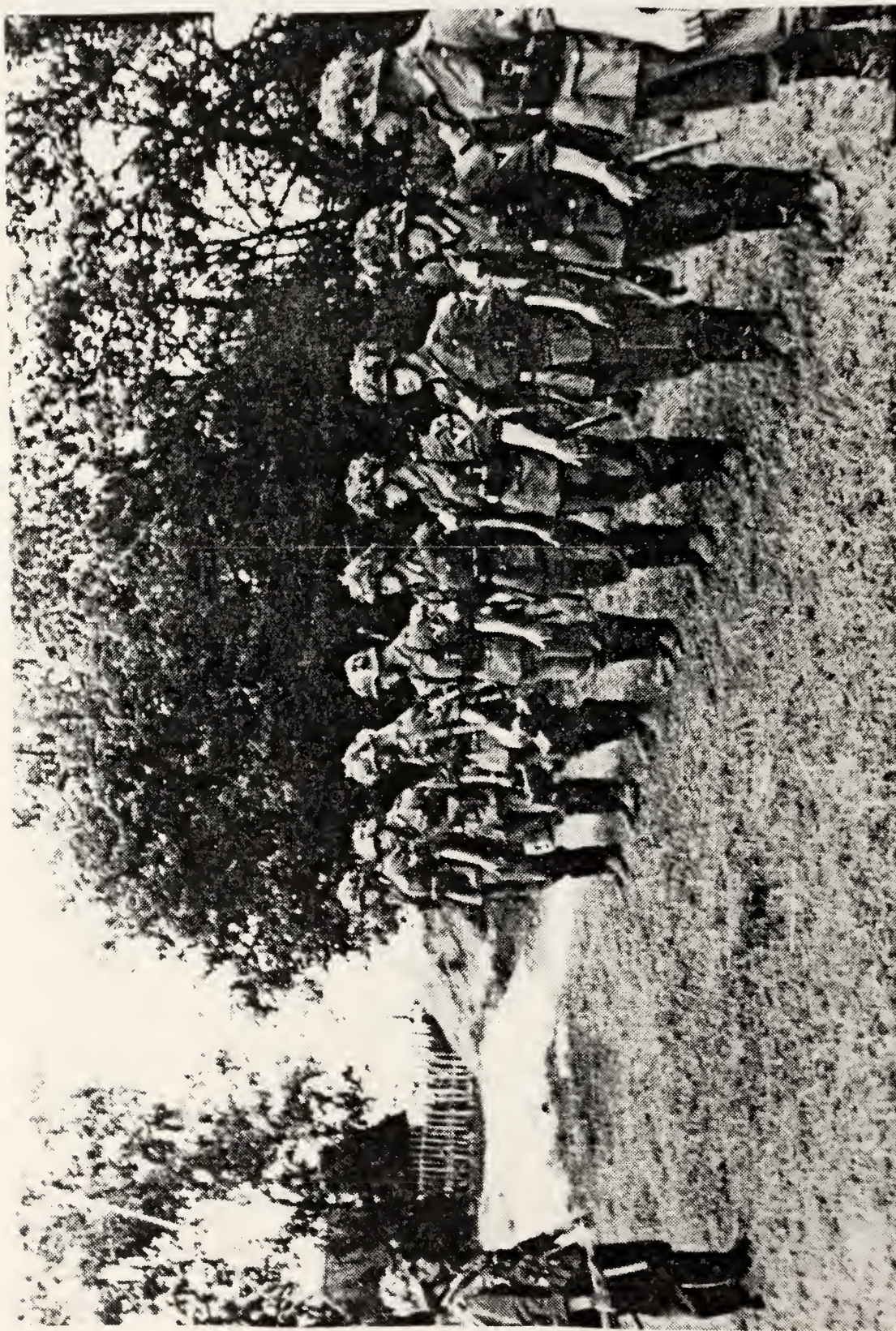


Illustration 7. GERMAN CONCENTRATION (AUFMARSCH) FOR BARBAROSSA: Shown above is a German 10-man infantry squad pictured here on 15 June 1941 in East Prussia. The squad leader is at left. The remaining nine men comprise from right to left, the five-man rifle section and four-man machine gun section (note the two men with machine gun boxes and drums). Approximately 45,000 of these squads attacked the Soviet Union on Sunday morning 22 June 1941.



Illustration 8. GERMAN CONCENTRATION (AUFMARSCH) FOR BARBAROSSA: One of the most important reasons for the German delay of Barbarossa from 15 May to 22 June 1941, was the severe winter and late thaw of early 1941. The picture taken above in East Prussia on 30 May 1941 illustrates the problem.

deficiencies in the technical qualities of German material.¹ Strategic surprise comprised many factors at the beginning of Barbarossa and bestowed several potentially decisive advantages on the Germans. Some of The factors constituting surprise and the potential advantages to the Germans were the following ones:

<u>Factor of Strategic Surprise</u>	<u>German Advantage</u>
(1) Uncertainty of War	(1) Soviet Peacetime Opns Mode
(2) German Time of Attack	(2) Soviets Surprised Tactically
(3) German Point of Main Effort	(3) Soviet Strategic Deployment Defective
(4) German Scheme of Maneuver	(4) Soviet Loss of the Initiative
(5) German Mobility	(5) Soviet Strategy of Holding on Frontier
(6) German Firepower	(6) Soviet MG and Artillery Weaknesses

If the Germans could keep the question of war substantially uncertain, the Soviets would probably maintain their airfields operating with densely packed peacetime parking areas and provide the Germans with the opportunity to eliminate the Red Air Force from the war. The Soviets would also keep all the frontier bridges intact with the resulting opportunity for the German field armies or other special forces to seize them undamaged. If the Germans could deceive the Soviets as to the question of the opening of a war, it follows almost as an axiom that they could

1. The Germans possessed a mild numerical advantage on the opening day of the campaign which would rapidly change to a disadvantage as the Soviets mobilized reserves and entirely new units. The Germans had two critical materiel deficiencies: (1) the most numerous German antitank gun in the Barbarossa forces was the 37mm L-45 cannon which proved incapable of damaging the Soviet T-34 and KV series tanks, and, (2) the Panzerkampfwagen III main battle tank armed with the 50mm, L-42 cannon, which also was largely incapable of inflicting damage on the heavier, more modern tanks of the Soviet tank inventory.

also select a main axis of advance which would (a) render the entire Soviet deployment of forces defective, and (b) subject the Soviets to defeat in the war as a result of the initial strategical misdirection of the defensive effort. If the Germans could next put together within the area of main effort a scheme of maneuver with the pace and destructive capabilities to keep the Soviets off balance, i.e., not allow them to rearrange and reinforce their defectively deployed armies, the Germans could press forward to the seizure of strategical terrain in the Soviet Union the loss of which would result in the collapse of the Soviet war effort. A key element, finally, contributing to the success or failure of the Soviet defense would be the Soviet calculation of the mobility and firepower of the German divisions executing the schemes of maneuver. If, for example, the Soviets underestimated German mobility, i.e., were surprised by the rapidity of German movement, their defensive strategy and associated tactical movements in reaction to the German initiatives would likely range from inadequate to self-defeating.

The Germans would start the war with immense advantages if they could achieve strategic surprise, and they took severe precautions to limit knowledge of the impending offensive and disguise the necessary buildup of forces. Did the Germans, however, achieve surprise in the opening stages of Barbarossa? And, accepting a premise that surprise was a driving consideration in the opening of Barbarossa, a basic question for purposes of the study would be: what doctrine or special emphasis did the Germans bring to bear in the planning and execution of Barbarossa to

disrupt Soviet Command, Control, and Communications? The question of German disruption of Soviet C³ in the opening stages of Barbarossa must be set, in other words, within the framework of the German attempt to achieve strategic surprise.

The question of whether or not the German field armies and air fleets achieved surprise has been addressed by most commentators on Barbarossa but with ambiguous and indecisive interpretation. The ambiguity is attributable to the different levels at which surprise has been considered. At the strategic level, commentators have a tendency to agree that Stalin, and, by implication, the Central Committee of the Communist Party of the Soviet Union and the high command of the Army, had information months before June 1941, which could be interpreted to indicate German plans and preparations for an attack. Such agreement tends to support a view that the Soviet political and military high commands were not surprised, i.e., confounded, overwhelmed, dumbfounded, bewildered, by the German attack. Yet the point remains that much of the information received by the higher level political figures was not of authenticity great enough to risk a hostile move against National Socialist Germany, and the fact persists that the high command failed to institute any plan to raise the state of alert of the great Red force deployed near the western boundaries of the state. At the strategic level of consideration, the Soviet political military leadership in 1941 remained unconvinced of the German intentions to launch an all out attack and was surprised by the time and point of main effort of the offensive and the violence and rapidity of the ensuing German action.

Among the tactical formations of the Red Army, the picture as concerns surprise is a mixed one. The Soviet tactical formations, e.g., divisions, corps, and armies, were constrained by the political policy of non-provocation and correctness vis-a-vis the Germans, to adopt a relaxed, peacetime alert status. Both the field armies and the special border forces of the Commissariat of the Interior were forbidden to violate the border in order to collect information to verify German intentions. To compound the Soviet problem, the Germans effected the final concentration of their forces on the border approximately 15-72 hours before the attack. Before that time, the Germans held the border lightly, echeloned their combat divisions in great depth behind it, and maintained radio silence.¹ For the final concentration on the border the Germans moved at night and concealed themselves during the daytime in the forests of Poland and East Prussia. Even if the Red Army units and the border guards near the Reich frontier had been more alert tactically and less concerned about border provocation, they would have observed little activity near the border up until 19 June 1941. Even after that date, the Germans moved forward under severely enforced conditions of march secrecy, and the Red Army would have had difficulty in deducing at the tactical level that a major offensive was imminent.

1. In a considerable technical achievement, the Germans maintained absolute radio silence among the Barbarossa forces, and when they launched the attack between 0305 and 0315, 22 June 1941, the Germans activated almost simultaneously hundreds of command, logistical, intelligence, etc. radio nets among the 2000 battalions, regiments, divisions, corps, and armies massed for the offensive.

In spite of German precautions in the concentration for the attack and Soviet emphasis on an inoffensive military alert posture on the western borders, the Red Army was not caught everywhere by surprise. Opposite several divisions in Army Group North, the Germans noted that the Russians were in their field fortifications ready to fight when the attack began. Opposite Army Groups Center and South, in contrast, the Russians were taken almost completely by surprise at the tactical level, but heavy fighting developed quickly opposite Army Group South. In the south, the Soviets had deployed particularly strong forces in anticipation of a potential future German attack motivated by the desire to seize the agricultural and mineral resources of the Ukraine. The German Schwerpunkt in the campaign lay farther north in the area of Army Group Center, and the Germans realized a greater measure of tactical surprise there. The tactical surprise, which the Germans attained across most of the front within the broader context of strategical surprise, was important but lasted for only a brief moment. Literally as the minutes ticked by in the opening fire missions of Barbarossa, tactical surprise and the advantages associated with it melted away, i.e., the Red Army formations knew they were under attack and began to fight back with increasing effect. The more enduring factor which the Germans seized and held as tactical surprise faded on the border was the initiative in point and time of attack. The Germans gained at least one special advantage from tactical surprise at the opening of the campaign and that was the seizure of dozens of bridges along the watercourses which lay along the frontier between the Reich and

the Soviet Union. Possession of the bridges gave the Germans the capability to drive ahead with the extraordinary mobility which characterized the opening stages of Barbarossa.

The Red Air Force, because of the vulnerability of its highly visible aircraft and air facilities, suffered almost irreversible damage from the German exploitation of tactical surprise. The Red Army, in contrast, was relatively insensitive to tactical surprise. From the strategic viewpoint of the initial arrangement or deployment of its forces, however, the Red Army was, almost immediately in near-mortal danger from the German attack. The deployment of the Red Army along the Reich border was inefficient from both defensive and offensive viewpoints. If one assumes that the Soviets were in a defensive deployment, the massing of forces forward in the Bialystok and Lemberg salients represents incredible naivety about the strength of a modern military offensive and a gross underestimation of German mobility and firepower. The deployment also supports a view that the Soviets were completely surprised for all practical purposes by the time of attack, point of main effort, and the scheme of maneuver of the German field armies. If one assumes that the Soviets were in an offensive deployment, or some stage of transition toward an offensive concentration, the massing of forces near Bialystok and Lemberg was an effective arrangement for an attack. The arrangement would have represented, however, a drastic misapprehension on the part of the Soviets about the pending German attack. The Soviets could scarcely be considered to have convincing evidence in their possession which supported the existence of an incoming German

offensive while continuing to plan their own offensive at a relatively unhurried pace. The Soviets were, in fact, in the throes of reorganizing their tank formations into balanced, combined arms divisions similar to the German Panzer divisions, reequipping the tank formation with T-34 medium and KV series heavy tanks, and modernizing the Red Air Force.

The Germans achieved both strategic and tactical surprise in the opening of Barbarossa although both types or levels of surprise must be considered as interdependent. Strategic surprise was the more important of the two factors with tactical surprise at the beginning of Barbarossa depending almost completely on the Soviet strategical assumption of the continuation of peace. Under the heading of strategical surprise, the Germans also exploited the defective initial deployment and qualitative inferiority of the Red Army into a stunning series of military victories. The Red Army deployment of the field armies up against the Reich border in the Bialystok salient resulted in a heavy concentration of Red Army divisions forward where they could be encircled by the more mobile German Panzer and motorized infantry divisions and pinned down and destroyed by the hard marching infantry divisions. Soviet military strategy was circumscribed by an initial deployment of forces too far forward and further weakened by establishment of the main defensive effort south in the Ukraine. The Soviets embraced a military strategy of stubborn resistance all along the border and attempted to hold on to as much terrain as possible. The strategy, which was driven significantly by consideration of political prestige and credibility in a state

sensitive to a nationalities problem and the traditional preeminence of the Great Russians, was a near-fatal one when fit together with the German strategy of sweeping encirclements around Bialystok, Minsk, and Smolensk.

The question of what doctrine or special emphasis the Germans brought to bear in the planning and execution of Barbarossa on the subject of Soviet C³ lies within the German attempt (1) to achieve surprise, and (2) to fight within that framework, the great, historically driven Prusso-German Entscheidungsschlacht. Any German attack on Soviet C³ would have the purpose to contribute to the success of the great battle of decision, and the question of what results the Germans sought in such a battle would seem to be the correct one to ask to ascertain the significance of counter C³ operations in Barbarossa. To discover the degree to which the German Army specifically targeted Soviet C³ and the disruption that they actually achieved in the opening stages of the campaign, the authors interviewed in Germany eight Army officers who had participated in the planning and/or execution of Barbarossa. The officers were distributed among command and staff billets as follows with striking difference among the levels at which they observed the campaign unfold:

Army Officer Participants in Barbarossa¹

- (1) Gen.(Ret.) J.-A. Graf Kielmansegg (G-3, 6.Pz.D.)
- (2) Maj.Gen. Alexander Frevert-Niedermeim (Squadron Ldr, AA26, 86.I.D.)
- (3) Maj.Gen.(Ret.) Peter von der Groeben (Asst G-3, Army Group Center)
- (4) Maj.Gen.(Ret.) Detlev von Plato (G-4, 1.Pz.D.)
- (5) Maj.Gen.(Ret.) Guenter Pape (CO, I.Bn, S.R. 394, 3.Pz.D.)
- (6) Maj.Gen.(Ret.) Dr. Eberhard Wagermann (Light Inf. Gun Plat. Cmdr., 23.I.D.)
- (7) Mr. Noack (Armored Inf. Company CO, 7.Pz.D.)
- (8) Mr. Charles von Luttichau (Army intelligence)

The participants were asked a similar set of questions about terrain objectives for maneuver and targets for fire in Barbarossa and it became clear at both the higher levels of consideration, e.g., Headquarters, Army Group Center, and tactical levels, e.g., light infantry gun platoon, that the Germans interviewed saw the combat in Soviet Russia as an exercise in the physical destruction of the opposing Red Army divisions. The participants were asked specifically whether or not the Germans in the planning or execution had a conscious, specific doctrine of attack against Soviet C³ in the opening stages of Barbarossa. The Army and Luftwaffe officers alike answered unanimously that no such doctrine existed. Major General Guenter Pape answered with great decisiveness that it was unrealistic, i.e., constituted an unreal intellectual abstraction, to break out C³ from the continuum of relationships, units, and combat in which it existed. Major General Peter von der Groeben stated that the planning

1. Dr. Klink, presently scientific director at the Militaer-Geschichtlichen Forschungsamt, Freiburg-im-Breisgau, W. Germany, was interviewed relative to his experiences in Barbarossa in a Waffen SS division.

accomplished and orders issued at Army Group Center involved no references to Soviet C³. Major General Detlev von Plato as G-4 of the 6th Panzer Division stated that "at the level of the division, we never had intelligence satisfactory enough to attack Soviet C³." General J. A. Graf Kielmansegg added that "the main point was to get at the enemy force and make it unable to fight." He elaborated that the idea of unable to fight could be equated with killed and captured Soviet troops and bent and burning Soviet equipment. He added finally that the overrunning of the enemy formation itself destroyed C³ as a part of the smashing of the enemy force. When approached on the same subject of C³ but obliquely in terms of the question: what targets did you designate for attack within the sector of the 6th Panzer Division, he answered testily, "the main 'target' is to destroy the enemy."

The same officers agreed, however, that Soviet command posts and headquarters were extremely important and when located were targeted by artillery and attacked where possible by mobile ground formations. Major General Frevert-Niedermein, who served as leader of the Reiter (horse) squadron, 26th Reconnaissance Battalion, 86th Infantry Division, noted that the forward element of the division "tried to disrupt the organization of the enemy" and that "the general orders for the cavalry were always to find, attack, and disrupt enemy headquarters." Frevert-Niedermein and most of the other Army officers interviewed stated that Soviet headquarters were difficult to pinpoint. The Army and Air Force Staff officers who participated in planning noted that German intelligence was

simply unable to uncover anything more than a few higher level headquarters. The commanders who executed the attack stated similarly that Soviet command posts and headquarters were much smaller and more primitive than the German and extremely difficult to locate. Major General Frevert-Niedermein noted, for example, that the command post of the relatively large Soviet infantry division, of June 1941, would be a small complex of a few people, one or two motor vehicles, no radios, minimal tentage, and depend heavily on low quality military telephone equipment and local civilian telephone and telegraph networks for communication. Such a primitive complex was difficult to find and distinguish as being a command post, e.g., the forest of antennas and mass of motor vehicles associated with the Western divisions of the same day were simply absent even with the large Red infantry divisions as constituted by the directives of September 1939.¹ The Germans interviewed made it clear that the Red Army of June 1941 possessed relatively primitive C³ which was in turn linked with an extremely backward transportation network comprised of unpaved roads and thinly spread rail system. The picture of Soviet C³ which emerges is one of a system using relatively few radios, dependent heavily on military and civilian telephone equipment and lines and concentrated in relatively small field command posts and modest headquarters, which because of the Soviet xenophobia and the penchant for secrecy remained largely undiscoverable by the Germans in the

1. Based on their experiences in the Finnish War (1939-1940), the Soviets had begun to reorganize the large (18,800 men) model September 1939 divisions into more compact (14,400 men) divisions under a directive of May 1941.

planning for Barbarossa and elusive during the campaign itself.

Yet the fact remains that Soviet C³ disintegrated almost immediately under the impact of the German attack in the Western Military District, and various Soviet sources of information on the campaign imply or directly state that the Germans with clearcut purpose demolished Soviet C³. The two Soviet participants in the opening stages of Barbarossa, who were interviewed in the course of the study, stated that they "believed" the Germans purposefully and methodically attacked Soviet C³.¹ The emphasis must be on the word, "believe," because the interviewees could offer no proof of German intent and based their belief on the disruption accomplished by the Germans, which was so extensive that it supports a view of specific intent. The evidence from the German Army participants in Barbarossa, the German Army records, and the vast literature on the subject, rejects the presence of German counter³ doctrine in the opening stages of Barbarossa or during the remainder of the four-year campaign. The German statements on the opening stages of Barbarossa, however, agree with the Soviet view of chaos and carnage in the Western Military District (after 23 June 1941, designated by the Soviets as the Western Front) and offer overwhelming evidence of the breakdown of Soviet C³.

Whatever the Germans did in the opening stages of Barbarossa, it resulted in the immediate disintegration of Soviet C³, the encirclement and destruction of seven Soviet

1. Mr. Aleksandr Nekrich and Mr. Kamill Usfensky. The former is a well known author and accomplished researcher on the events of the Russo-German Campaign.

armies opposite Army Group Center, and the defeat of the Red Army forces opposite Army Groups North and South. Within the political framework of a surprise attack against an ostensibly friendly Soviet Union, with which National Socialist Germany had a recent nonaggression pact of immense practical benefit to both parties, the German Army planned from July 1940-June 1941 a vast offensive. The Army envisioned a secret, gradual, innocuous Aufmarsch or concentration of forces for the offensive followed by a set of operations calculated to defeat the Soviet Union in a single, swift campaign, i.e., in one campaigning season. The operations foreseen in OKW Directive No. 21 (Case Barbarossa) were transformed into reality through a set of plans extending from army group through army, corps, and division.¹ Those plans exemplify the Army's dedication to a battle of decision and the concomitant smashing of the Red Army.

The Germans made no reference in the documents examined to a concept of stunning their opponent through special attacks on his C³ either accompanied or followed by general attacks against an assumed disintegrating enemy. The Germans made reference in their documents to the destruction of the Red Army as far west as possible and in the shortest period of time. Perhaps the most important part of Fuehrer Directive No. 21 is the first two sentences of the General Intention which state: "The bulk of the Russian Army stationed in Western Russia will be destroyed by

1. Directive 21, was one of a slender category of 74 directives put out through OKW with additional special qualities which caused them to be designated Fuehrer Directives. See H. R. Trevor-Roper, ed. Blitzkrieg to Defeat, Hitler's War Directives, 1939-1945 (New York, 1964), pp. xxi, 48-52.

daring operations led by deeply penetrating armored spearheads. Russian forces still capable of giving battle will be prevented from withdrawing into the depths of Russia." To carry out the intention, the German Army and Luftwaffe planned three sets of ground operations and a great air strike to secure the destruction of the Soviet forces stationed near the frontier. The emphasis in the ground operations and the air strike, to the exclusion of virtually any other consideration, was the smashing of the opposing combat forces.

Fuehrer Directive No. 21 designated the Schwerpunkt of the offensive against the Soviet Union as lying north of the Pripyat Marshes and in turn within the sector of Army Group Center. Field Marshal Fedor von Bock's army group planned the most daring and deeply oriented thrusts of the campaign. Taking advantage of surprise by exploiting the associated factors of initiative and concentration of effort, von Bock deployed his mobile assets of Panzer and motorized infantry divisions in two groups on the extreme northern and southern wings of the advance. General Heinz Guderian, the creator of the German armored force and possibly its most talented leader, was to drive the 350 kilometers to Minsk swiftly enough to prevent the three Red field armies in the Bialystok salient "from withdrawing into the depths of Russia." Guderian would lead his Panzer Group of eight mobile divisions from the area around Brest-Litovsk northeast towards Minsk. General Hermann Hoth, slender, wiry, nimble in thought and action, and ultraaggressive was to drive a somewhat shorter distance of 320 kilometers to Minsk, link up with Guderian, and prevent the Bialystok Soviets

from withdrawing eastward. Hoth would lead his Panzer Group of seven mobile divisions from the area of the Suwalki appendix northeast toward Vilna then southeast toward Minsk. With luck, from a German viewpoint, Guderian and Hoth would meet at approximately the same time in Minsk and the Red Army troops of the 3rd, 4th, and 10th Armies would be put as cats in a bag. If all went well, i.e., the infantry armies of Field Marshal Guenther von Kluge and General Adolf Strauss followed closely, maintained the lines of encirclement, and quickly reduced the pockets, the mobile groups would press on immediately in a second great double envelopment anticipated to close at Smolensk and culminate in the seizure of the land bridge to Moscow. The next step would be the advance to Moscow, destruction of the Soviet forces defending it, and the seizure of strategic terrain around it resulting in the collapse of the Soviet war effort.¹

Thus lay the German plans in the area of Army Group Center -- the area in which the Schwerpunkt for Barbarossa had been chosen and the Entscheidungsschlacht would be fought. The minute hands on hundreds of thousands of wrist watches moved past 0300 and when they reached 0305 in the area of Army Group North and Panzer Group 3 of Army Group Center, German artillery there opened fire and special army assault detachments moved to seize the bridges close to the border which were necessary for the advance. Farther south in Army Group Center and Army Group

1. The higher army commanders contemporaneously recorded their support for the singleminded drive to Moscow. Adolf Hitler, alone and uniquely, had objections to the Moscow plan. When the time for decision on the final drive to Moscow came on schedule toward the end of July, Hitler vacillated for weeks and finally imposed a great southern detour on the armies.

South, the German artillery opened fire at 0315 and similar special assault detachments moved to seize the former Polish bridges near the frontier. Within a period of ten minutes the Germans attacked across hundreds of miles of frontier. Shortly before the artillery opened fire, approximately 900 Luftwaffe combat aircraft moved down East Prussian, Polish, and Rumanian runways shortly before first light, gathered themselves into attack formations, and between 0305-0315 crossed the frontier. The Luftwaffe formations, consisting largely of twin engined JU-88 and He-III medium bombers and powerful fighter escorts, swept on largely toward 34 Soviet airfields which had been systematically and patiently uncovered by Air Fleet-level intelligence during the preparations for Barbarossa. The Air crews had every reason to believe that when they arrived at the fields, more than 1,000 Red Air Force machines would be lined up on them. Meanwhile, on the ground, 45,000 infantry squads and 3,200 tanks supported by 8,000 pieces of artillery and infantry guns had begun to move toward the east. The Germans advanced in accordance with a plan, exerted a powerful initiative, and concentrated their effort in point and time. Although it seems inconceivable today, the fate of the present Soviet Army and Air Forces was moved like a leaf in the wind by the German onslaught.

As the Germans advanced early on Sunday morning,

1. Pieces of artillery and infantry guns comprised the following array of weapons none smaller than 75mm bore diameter: 75mm, 150mm infantry guns and 100mm, 105mm, 150mm, 170mm, and 204mm rifled howitzers and guns.



Illustration 9. GERMAN OFFENSIVE MOVEMENT: Shown above, German PzKw IV tanks (short 75mm infantry support cannon) of General Heinz Guderian's Panzer Group 2 in White Russia. Photo taken between 22-30 June 1941.



Illustration 10. GERMAN OFFENSIVE MOVEMENT: German main battle tank, PzKw III, on the largest and finest highway in the Soviet Union, the road from Minsk to Moscow. The road is unpaved and has only light telephone and other electrical lines on one side.



Illustration 11. GERMAN OFFENSIVE MOVEMENT: Shown above are Czech-built TNHP-38 tanks used by the Germans in Army Group North moving across a typical unpaved road. German mobility was severely reduced by such roads and engine cylinder wear increased by the omnipresent dust.



Illustration 12. GERMAN OFFENSIVE MOVEMENT: "The only paved road I came across in the Soviet Union was 30 miles of highway leading north out of Orel in 1941." The words are those of Maj Gen Guenter Pape (Ret.), battalion and regimental commander in the 3rd Panzer Division in 1941-1944. The Germans faced a major challenge in the primitive Soviet road system. Shown above is a command car being towed by a captured French Hotchkiss retriever.



Illustration 13. GERMAN OFFENSIVE MOVEMENT: Shown above, Ukrainians greeting the advancing Germans of Army Group South. In June and July 1941, many factors favored the Germans including significantly friendly populaces in the Ukraine, Lithuania, and even White Russia.



Illustration 14. GERMAN OFFENSIVE MOVEMENT: Shown above, German troops greeted by White Russian woman on 2 July 1941 in Minsk, the capital of White Russia.

particularly in Southern Lithuania and White Russia, they began a process of disintegration of the Soviet field armies which can be characterized in terms of the following trauma:

German Disintegration of the Red Army (June-July 1941)

- (1) Disruption of Soviet Command, Control and Communications (C³) over and among the field armies.
- (2) Disruption of the Soviet Transportation System on which the field army moved.
- (3) Direct Physical Destruction of the divisions in the field armies.

The Germans did not have enough accurate intelligence by 22 June 1941 to target for artillery fire or aerial bombardment more than a handful of "suspected" Soviet military headquarters in the opening hours of Barbarossa. Many Red Army headquarters and field command posts, however, were located close to the Reich frontier where they were subject to being brought under fire and overrun physically by various combinations of German riflemen, machine gun sections and tanks. The same targets were also quickly brought under attack as targets of opportunity by the agile and flexible German artillery but probably more often as the command posts found themselves among Red Army formations being buffeted about by the German assault. The Soviet 3rd Army under Lt. Gen. V. I. Kuznetsov had its headquarters at Grodno, a scant 27 kilometers from the Reich frontier in 1941. Elements of the German 8th Infantry Division moved into the outskirts of the city by 2000, 22 June 1941, having forced the physical displacement of the headquarters of the Soviet 3rd Army from Grodno hours earlier. The German 8th Infantry Division and its neighbors on each side in order to get to Grodno had smashed

their way through three Soviet rifle divisions, the Soviet 54th Armor Brigade, and overrun the headquarters of the Soviet 4th Rifle Corps. The German 8th Infantry Division in moving against the Soviet infantry and armor came under fierce tank counterattack which lasted "from noon to dark," and came in packs of 20-40 vehicles. The division estimated it destroyed 80 Soviet tanks in the heavy engagements.¹ Within 17 hours of the opening of the campaign Soviet C³ within the 3rd Army was in the following shambles:

Collapse of Soviet C³ around Grodno/3rd Army

(1) Remnants of Headquarters, 3rd Army forced to flee eastward under threat of being physically overrun by German 8th Infantry Division. Most of staff KIA or WIA in air attack earlier in day.²

(2) Headquarters of 4th Rifle Corps forced to flee southeastward by the German 246th Infantry Division.

(3) Headquarters of Soviet 27th, 56th, and 143rd Rifle Divisions forced to displace eastward along with every other subordinate command element in the divisions not killed or captured by the Germans.

Forced to move physically during the afternoon of 22 June 1941, the remnants of Headquarters, Soviet 3rd Army, lost contact with both the higher command in the Western Military District 265 kilometers to the rear at Minsk and the subordinate elements within its own army. The Soviet commanders and their instruments of control in the area of the 3rd Army existed, of

1. See VII.Armeekorps, Abt.IC, Gefangenenervernehmungen von 23.6.41-24.10.41. dated 23.6.41, 0700 hours. Bundesarchiv, Freiburg, RH 24-8/127.

2. See Heeres Gruppe Mitte, Tagesmeldungen, 22.6.41-23.6.41, Bundesarchiv, Freiburg, RH 19 II/128.

course, not as an end in themselves, but to direct the movements of the various combat formations of the army across the transportation system in that part of White Russia. Within the same 17 hours that Soviet C³ was directly threatened, overrun, displaced, and disrupted, the Soviet commanders were faced with at least two additional factors which tended to make C³ academic. First the casualties and damage inflicted on three Soviet rifle divisions and their scattering to the east, not only destroyed the C³ system within those formations, but also plucked them out of consideration for use by higher level commanders. Second, the Germans physically seized the roads bridges, culverts, intersections, telephone and rail lines over which they advanced denying them to the Soviets and making orders passed to Red Army units through the Soviet C³ system impossible to execute because of the occupation of the transportation system by the German field armies and its bombardment (after several days into the campaign) by the Luftwaffe.

Farther south around Kobryn (Kobrin), where the Soviet 4th Army under Maj. Gen. A. A. Korobkov had its headquarters, the southern spearhead of the encirclement planned by Army Group Center gained momentum. The German 18th Panzer Division of Panzer Group 2 which jumped off just north of Brest, advanced 65 kilometers into Soviet-occupied Poland reaching the area directly north of Korobkov's 4th Army headquarters just before darkness on Sunday evening. In doing so, the German 18th Panzer Division cut all of Korobkov's direct telephone communications with the infantry and cavalry divisions lying south of Brest

leaving him with limited control over one badly mauled rifle division, one intact rifle division, and the remainder of the Soviet 54th Armored Brigade. The Germans did not stop for darkness and later in the evening at about midnight, drove into Kobryn itself. Advanced elements of the 3rd Panzer Division forced the headquarters of the Soviet 4th Army to displace eastward and shattered most of what remained of Soviet C³ in the area of that army. Marching hard on foot behind the Panzer divisions, the German 34th Infantry Division more thoroughly worked over the terrain along the road from Brest to Kobryn. Farther south, the German 1st Cavalry Division and the Vorausabteilung (VA) or advanced detachment of the German 255th Infantry Division seized Malorita with its telephone exchange, rail line, and main road, and broke up communications within the southern wing of the 4th Army.

Literally in the eye of the German storm, the Soviet 10th Army of Maj. Gen. K. D. Golubev with its headquarters at Bialystok stood relatively unscathed on the first day of Barbarossa. The German infantry armies advancing inside each of the Panzer groups gradually built up heavy pressure against the northern and southern flanks of the Soviet 10th Army. As late as two days later, in response to orders from Headquarters, Western Front, Golubev launched his intact 6th and 11th Mechanized Corps against the German infantry divisions of Lt. Gen. Adolf Strauss' 9th Army south of Grodno. Strauss' army was attempting by 24 June 1941, to hem in, pin down, and destroy Soviet forces which would only 70 hours later be encircled by the arrival of Panzer divisions of Hoth and Guderian at Minsk 280

kilometers farther east. The Soviet commander of the Western Front, General G. D. Pavlov, and the commander of the 10th Army had lost track of the movements of the deeply penetrating German Panzer force. The two Russian generals should have been withdrawing their divisions as rapidly as possible to the East through Minsk to escape the encirclement which would be complete three days later. The generals instead ordered far to the west a major attack in a northerly direction which foundered on the 37mm antitank guns of the antitank battalions and regimental antitank companies of the German 162nd and 256th Infantry Divisions.

Farther to the north, opposite the Soviet Baltic Military District, German Army Group North advanced in terrain which favored the defender and was characterized by great forests, unpaved sandy roads, swamps, and numerous rivers often winding through narrow, precipitously sloped valleys. Army Group North, nevertheless, scored an impressive breakthrough of the Soviet frontier defenses on the first day of Barbossa. The LVI Panzer Corps under Lt. Gen. Erich von Manstein, through some special combination of fortune and skill, found a relatively weak spot in the Soviet defenses in Lithuania. Attacking just north of the Nieman (Nemunas) River, the German 8th Panzer Division under Brig. Gen. Brandenberger drove eastward 80 kilometers into Lithuania seizing the bridge over the great Dubissa (Dubysa) River gorge at Ariogala just as darkness was falling.¹ The 8th

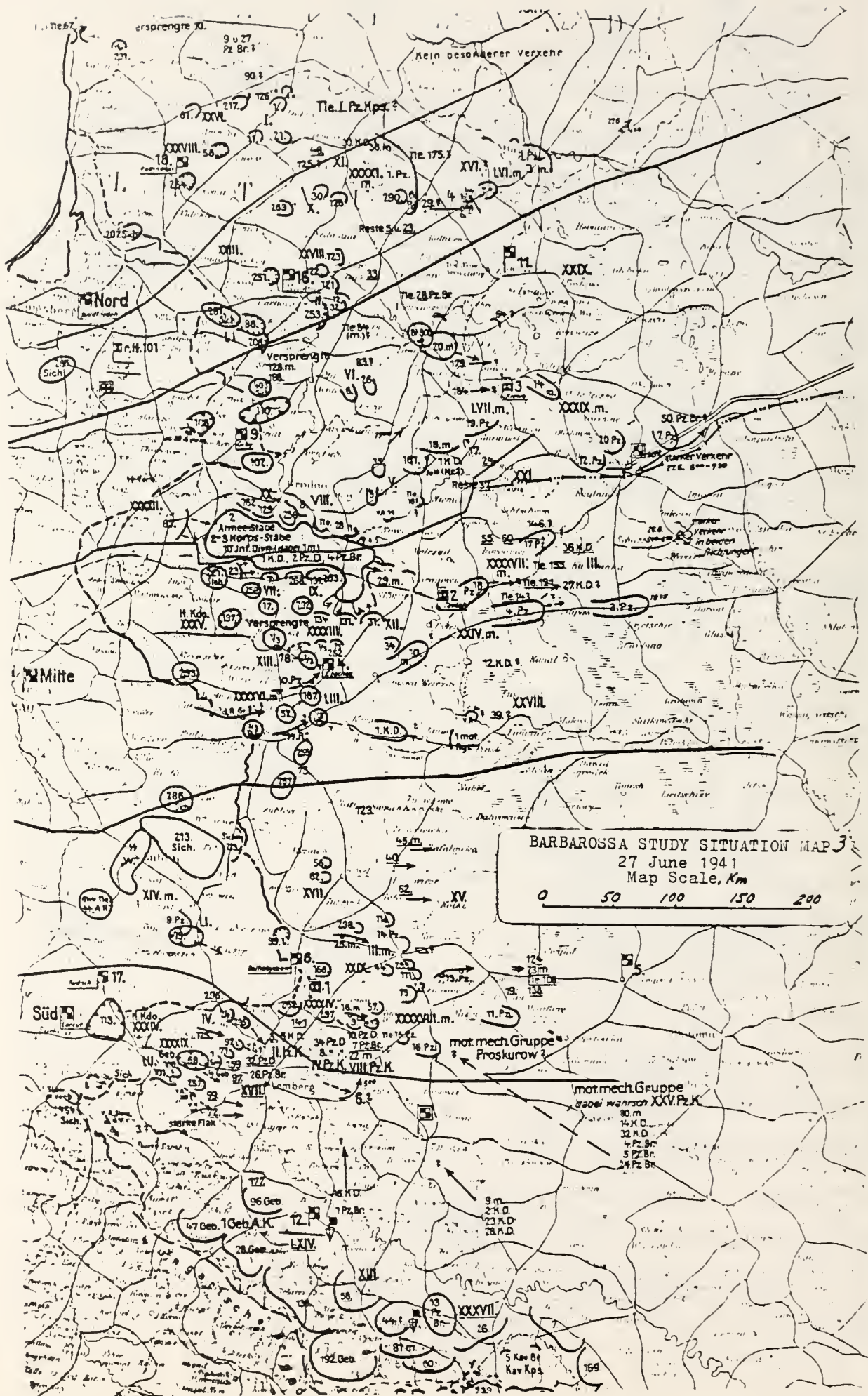
1. For the locations of these cities and geographical features see especially Maps 1 and 2, which also give the locations of every German division in the campaign at 2000 on the day noted.

Panzer Division stood roughly halfway between the headquarters of the Soviet 11th Army under Lt. Gen. V. I. Morozov at Kovno (Kaunas) and the headquarters of the Soviet 8th Army farther west at Schaulen (Siauliai) under Maj.. Gen. P. P. Sobennikov. The German division stood on the main (but unpaved) highway connecting Kovno with the Baltic Sea at Memel (Klaipeda) but just missed cutting the lesser road, telephone lines and exchanges, and railroad which connected the Soviet 11th Army in Kovno with the 8th Army in Schaulen. The German 8th Panzer Division remained curiously "hidden" at Ariogala from the higher Soviet command in the Baltic Military District. Although it had seized the important bridge over the Dubissa River, it had not yet advertised its startlingly deep objective hundreds of kilometers further to the rear by cutting through the Soviet communication system connecting the 8th and 11th Soviet Armies.

The Germans 16th Army, in the meantime, bore down on Kovno and the Headquarters of the Soviet 11th Army and gripped its attention to the south of Ariogala. On the same day, the German 4th Panzer Group thrust with its main weight at Rossenie adding to the concern of Lt. Gen. Morosov and turning the attention of the Headquarters of the Baltic Military District under Col. Gen. F. I. Kuznetsov to the west of Ariogala. Faced with multiple attacks, uncertain of the strength and potential danger of each, an overloaded Soviet command simply reacted to the German initiative. It is perhaps an important lesson in the overloading of an enemy command defending against a Blitzkrieg, that the Soviets missed the most important initiative of the Germans in the north - the drive of the LVI Panzer Corps through Ariogala

on its way to seize a bridgehead over the Western Dvina River 300 kilometers away at Dunaburg (Dvina) (See Maps 1, 2, and 3).

The German field armies advanced impressively on the first day of Barbarossa. In the Soviet Western Military District, German Army Group Center rapidly began to break up Soviet C³ especially through the physical dimension of its two major breakthroughs at Kobryn in the south and Merkinė in the north, and the casualties and damage, e.g., tank losses, inflicted on the defending Soviet divisions. In the Soviet Baltic Military district, German Army Group North achieved a major breakthrough at Ariogala, although the Soviets maintained their strategical cohesion reasonably well and the Soviet command gathered forces somewhat precipitously for a major counterattack at Rossenie. In the Kiev Military District, German Army Group South, faced with proportionally the strongest resistance, developed the potential for a major breakthrough in the area of attack of the 11th Panzer Division. In a seldom made contrast of results achieved on the first day of Barbarossa, the German field armies inflicted far less damage and disruption on the opposing Soviet ground forces than the Luftwaffe achieved against the Red Air Force. The German field armies developed on the first day of the war and during the next several days a potential for severe defeat of the defending Soviet ground forces but the traps were not closed nor the disruption irreversible until several days into the campaign. In stunning contrast, within approximately one hour and fifteen minutes of the time that artillery opened fire at 0305 in the north, the Luftwaffe had achieved a shattering blow which (1) caused the destruction of approximately 1,000



Soviet aircraft and their associated support facilities, and (2) gained an offensive strategic edge for the Luftwaffe, which kept the Red Air Force of balance and resulted in the destruction of 5,000 Soviet aircraft by the end of the first week of the campaign.

When midnight struck on 22 June 1941, the situation on the Eastern Front could be compared with the preceding two Blitzkriegs in Poland (1939) and France (1940) at the same early stage of development. The defenders, in the present case the Soviets, found themselves under attack in a war and rapidly recovering from the local, tactical effects of surprise. With the exception of the two Soviet army commanders physically displaced out of their headquarters at Grodno and Kobryn, the other army commanders had probably recovered their composure and were feeling confident that with the immense, largely intact forces at their disposal they could put up an effective defense, and, in some reasonable period of time, regain the initiative. Based largely on the noteworthy fact that the Germans succeeded in losing the Second World War in Europe, authors, analysts, and commentators have spilled much ink describing how the Germans underestimated the Soviet armaments effort, the individual Russian soldier, Russian space, and the cohesion of the communist political system. Few observers have commented on the gross Soviet underestimation of German command flexibility, operational mobility, and firepower, at the beginning of the Russo-German Campaign. The Soviet strategy on the frontier turned out to be to resist stubbornly as far west as possible, to give up a minimum of Soviet and/or former Lithuanian, Polish, Rumanian

territory, and to shift to the offensive as quickly as possible. Such a strategy was hopelessly divorced from reality and represented a monumental underestimation of the Germans.

On a bitterly cold afternoon in a small but comfortable home in the outskirts of Celle on the North German Plain, Maj. Gen. von der Groeben, former assistant operations officer of Army Group Center, stated still incredulously that "we were astonished in the war that the Russians fought on the frontier."¹ He went on to elaborate that the commander and staff of Army Group Center, did not believe that the Russians would accept battle on the border and that the most difficult problem for the army group to master would be to move fast enough to encircle the Soviet armies in White Russia before they could retire east of the Dnieper River. Groeben's comments tend to put the thematic quotations at the beginning of this chapter in clearer perspective. The Germans hammered into officers and soldiers alike the need for tireless and swift forward movement fearful that the Russians would slip out of the planned encirclement. It is ironic that the Panzer spearheads of German Panzer Groups 1 and 2 would be pushing eastward "as far as possible without regard to danger from the flanks," while the Soviet 3rd, 4th, and 10th Armies for several unreal days would be stubbornly defending as far as possible to the west.

By Friday, 27 June 1941, the Soviets on the Western Front faced a military disaster that even the most pessimistic critics of the Red Army would have found difficult to believe a week

1. Interview, Von Der Groeben, Celle, W. Germany, 24 January 80.

earlier. The situation on the Northwestern Front was potentially more disastrous, and, even in the Ukraine, the Red Army was at the beginning of a retreat that would continue for five months and more than 1,300 kilometers.¹ Early in the evening of 27 June 1941, the German 7th Panzer Division, XXXIX Panzer Corps, 3rd Panzer Group, cut the great Minsk-Moscow highway 39 kilometers east of Minsk at the small communications center of Smolevici.² The 7th Panzer Division, under Maj. Gen. Baron von Funck, had made a spectacular dash of more than 320 kilometers to seize that small city. In doing so, the division had contributed decisively to the potential extinction of the Bialystok pocket by making relief from the east virtually impossible and had also closed the ring on a second pocket of Soviet divisions forming just to the west of Minsk. Inside of Minsk, the situation was chaotic and illustrates the complete breakdown of Soviet C³ on the Western Front by Friday evening 27 June 1941. At the moment that the German tanks, half tracks (Schuetzenpanzer), and trucks severed the direct highway, railroad, and telephone communications from Minsk to Moscow, the headquarters of the entire Soviet Western Front still lay in Minsk seriously exposed to being overrun. The German 12th and 20th Panzer Division stood only six kilometers away to the northwest from Minsk cutting any lingering telephone communications between Gen. G. D. Pavlov and his three armies lying to the west. The German 17th Panzer

1. Distance from the 1939 Reich (Polish) border to Rostov.

2. See Map 3, which shows the overall strategic situation in Barbarossa on 27 June 1941. The map also shows the tactical locations of German formations down to division level.

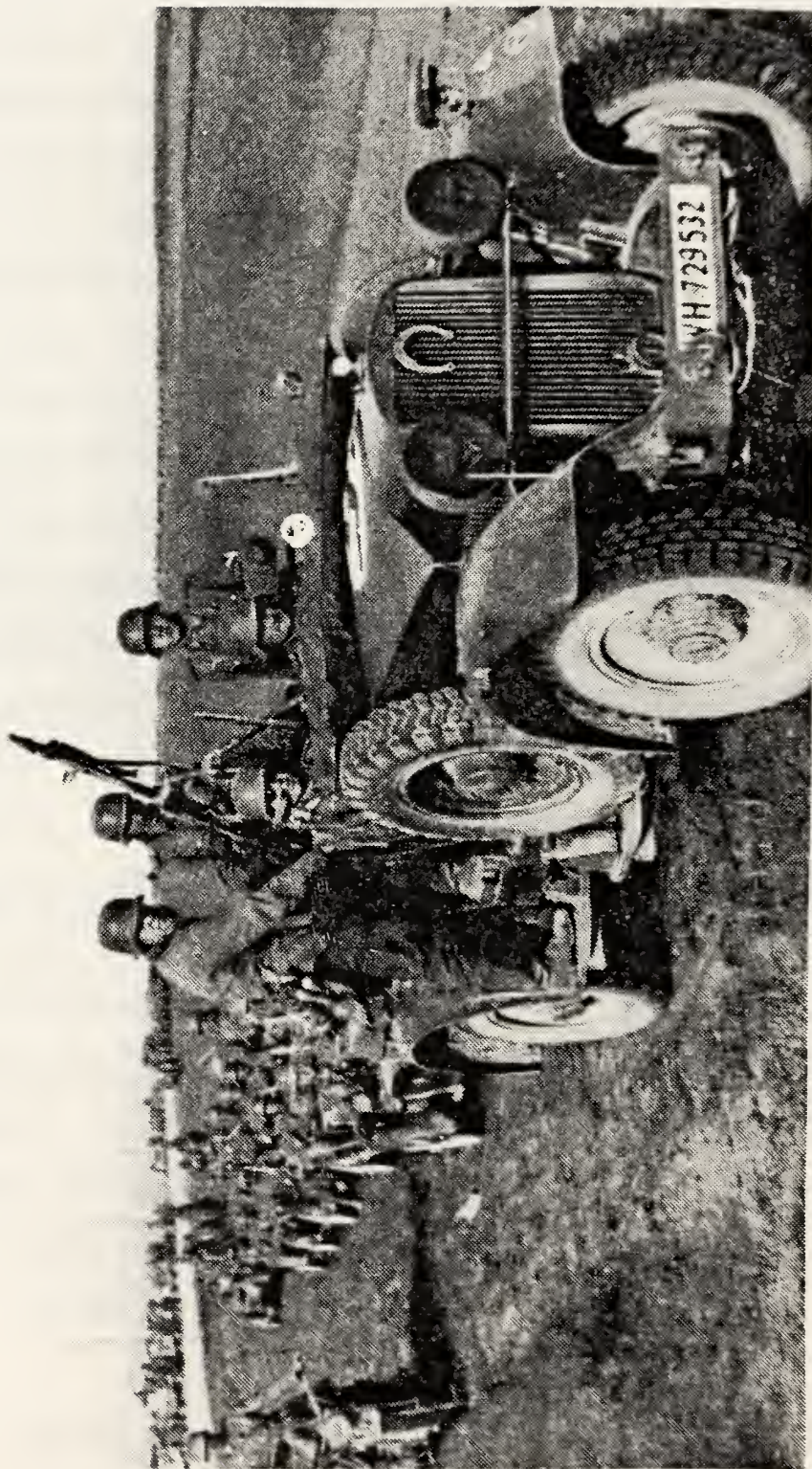


Illustration 15. GERMAN OFFENSIVE MOVEMENT: The Germans showed great versatility in the formation of combat groups for specific situations as they arose. The photo above shows a small, mobile detachment based largely on motorecyclists, probably engaged in a reconnaissance mission.



Illustration 16. GERMAN OFFENSIVE MOVEMENT: The Germans improvised effectively from the beginning of the campaign using 88mm antiaircraft guns as antitank cannons and developing a large family of self propelled guns. Shown above is a light infantry cannon (75mm) set up for tow by a three-wheel motorcycle and sidecar.



Illustration 17. GERMAN OFFENSIVE MOVEMENT: German members of a heavy machine gun platoon. German machine guns and machine gun tactics were superior to the Soviet and gave the Germans an edge over their tough Russian opponents at the squad and platoon level.



Illustration 13. GERMAN OFFENSIVE MOVEMENT: German infantry in the attack, along a road in Lithuania in the opening days of Barbarossa. Note the bipods already opened on the machine guns. German infantry firepower was built around the MG-34, which the Germans felt could develop as much fire as 20 riflemen.

Division, XLVII Panzer corps, 2d Panzer Group was approaching Minsk from the southwest and would enter the outskirts later in the day following a drive which had originated 350 kilometers to the west. Gen. Pavlov and his staff were forced to displace eastward and lost any final communication with the High Command in Moscow and the shattered armies of the Western Front which were now being compressed into two pockets farther west.

In the opening stages of Barbarossa on the Central Front, the events of 22-27 June 1941, represent actions, movements, and situations similar to those which could be expected in the event of a conventional Soviet offensive in Western Europe. History, although it repeats itself in terms of generally similar situations, never reproduces itself exactly. In the case of at least three broad factors encompassing a potential Soviet offensive in Western Europe, differences exist between Barbarossa and a potential similar future operation. First, a Soviet attack would represent the unusual case of a relatively less developed state preemptively attacking a more advanced bloc of states. Second, a Soviet attack would take place into less space in Western Europe than was the case of Russian space in Barbarossa. Third, the existing tense relations between the Soviet Union and the North Atlantic Alliance reduce the chances of surprise being achieved in an attack. On the other hand, the Germans achieved an impressive degree of disruption in Barbarossa. The disruption was based on identifiable factors and principle of operation exploited by the Germans in 1941, but capable of being employed by the Soviets today. Some of the factors of disruption are quantifiable in terms of the offensive

movement carried out by the Germans and the trauma inflicted in the defending Soviets. Summarized briefly in terms of an historical listing, the Germans had accomplished the following by midnight of 27 June 1941:

German Disruption of the Soviet Western Front

1. Seizure of Minsk by German Panzer formations which had moved 320 and 350 kilometers respectively from their initial positions 5 days earlier on the frontier of the Reich.

2. Encirclement of large parts of the Soviet 3rd, 4th, and 10th Armies including: 13 divisions, four brigades, and the headquarters staffs of the 4th and 10th Armies and three corps. The pocket formed was 60 kilometers long averaged approximately 15 kilometers wide, and was centered on Mal-Berestovica well to the east of Bialystok. The pocket was encircled almost entirely by infantry divisions of the German 4th and 9th (Infantry) Armies.

3. Loose encirclement of a large number of Red Army formations which had escaped the Bialystok cauldron. The formations included 10 relatively intact Soviet divisions and the remnants of two others. Most of these forces would soon be hemmed in tightly around the small city of Bakszi (Baksty) 90 kilometers west of Minsk.

4. Total disruption of Soviet C³ on the Western Front as characterized by the following factors:

a. "Annihilation" of the headquarters staff of the Soviet 3rd Army in Grodno and displacement of the headquarters of the 4th Army eastward out of Kobryn on 22 June 1941.

b. Loose encirclement east of Bialystok as early as 24 June 1941 of approximately half of the three Soviet armies on the Western Front.

c. Cutting of all telephone communications on 24 June 1941 between the Bialystok area with its three army headquarters and the commander and staff of the Western Front at Minsk.

d. German domination of the transportation system in White Russia through physical seizure of the road and rail system in the great offensive drives eastward¹ and through unopposed aerial bombardment after 24 June 1941 of the Soviet occupied parts of the system.

5. Inflicting of massive casualties and damage in the ensuing reduction of the Bialystok (Mal-Berestovica) and Novogrodek (Bakszi) pockets between 28 June-8 July 1941.

Certain elements in the offensive movement carried out by the Germans and the trauma inflicted on the defending Soviets can be quantified in a useful way. Most of the same elements would be significant in the event of a Soviet conventional offensive against Western Europe in a moderately distant future time frame. With appropriate restraint and caution, certain of the elements common to Barbarossa I (22 June 1941) and potential Barbarossa II (future time frame) can be systematically arranged, quantified, and noted for consideration as historically based projections of conventional combat in Western Europe. On the other hand, in contrast, it can be shown that several important factors for consideration at present in Europe were essentially reversed in Barbarossa, e.g., the Germans with a higher command style and technological superiority attacked The Soviets who displayed a primitive C³ style and system and uneven technological achievement. The situation in Europe today can perhaps be portrayed in the generalization that a major offensive at the beginning of a conventional war would be launched by Soviet forces with a less sophisticated command style and C³ system and less advanced technology than those of the West. In a

1. Interview, Maj. Gen. Pape, Benrath-Duesseldorf, 11 Jan. 80. Pape, for example, noted that many prisoners taken by 3rd Panzer Division, were physically exhausted, ragged, and dishelved. The reason: they had been forced consistently to move cross country because (1) the Germans had seized the best roads, and (2) the Luftwaffe had the Soviet part of the road system under surveillance and attack.

2. See, Heeres Gruppe Mitte, Ia, Tagesmeldungen, 22.6.41-15.7.41, Bundesarchiv, Freiburg, RH 19II/128, for Soviet losses.

more optimistic vein from the viewpoint of the historical lessons, however, the following elements potentially common to Barbarossa I (1941) and Barbarossa II (future) can be considered and quantified:

Barbarossa Quantifiables (Army)

I. Measures of Offensive Movement.

1. Number of kilometers, direction, time.
2. Terrain seized.
 - a. Urban communications plexuses.
 - b. Rural avenues of movement.

II. Measures of Defensive Traumas.

1. Destruction.
 - a. Casualties: KIA, POW.
 - b. Damage: Tanks, Cannons, Destroyed/Damaged
2. Paralysis.
 - a. HQs and CPs attacked, overrun, displaced.
 - b. Ranks of POWs.
 - c. Physical seizure of transport net.
 - d. Air surveillance and attack vs transport net.

The Germans, in effect, accrued enormous advantages when they achieved surprise, and, with it, the factor of initiative and concentration of effort. The German historical style in war, which placed a premium on independence and flexibility in command, added the ingredients of the Schwerpunkt and Auftragstaktik. The results which the advantages of surprise gave the Germans can be quantified for the first six days of war in the Soviet Union, i.e., B-day +5, in terms of the distances advanced. German offensive movement had been formidable, and it had taken place within a frame of reference in 1941, which the Soviets, for all their emphasis on the mobility of cavalry tanks and armored cars, were scarcely able to comprehend. To arrive at Minsk on 27 June 1941, Maj. Gen. von Arnim's 17th Panzer Division traversed approximately 375 kilometers including several major

engagements along the way and movement across a thinly developed network of unpaved roads, through forests, swamps, and poorly tilled farm land. The 17th Panzer Division moved toward Minsk in the following increments:¹

1. 22 Jun 41, 80 km, NE, Seizure Pruzana, 5 Roads, Telex.
2. 23 Jun 41, 40 km, NE, Near Rozany.
3. 24 Jun 41, 40 km, NE, Seizure Slonim, 8 Roads, 2 Rails, telex.
4. 25 Jun 41, 0 km, Battle at Slonim.
5. 26 Jun 41, 110 km, NE, Seizure Stolpce, 5 Roads, 2 Rails, telex.
6. 27 Jun 41, 70 km, NE, Enter Minsk, 10 Roads, 4 Rails, Tel-relay.

The 17th Panzer Division followed by several other German formations including especially the 29th Motorized Infantry Division and the 34th Infantry Divisions, had physically seized 375 kilometers of White Russian road, rail, and telephone systems, thereby denying the Soviet High command in Moscow and the battered Headquarters, Western Front, C³ access by messenger, officer courier, telephone, telegraph, and teleprinter, to the armies around Bialystok and the divisions around Novogrodek. The higher command lost touch with the several hundreds of thousands of Red Army troops in combat around Bialystok and Novogrodek and was left only the option of building up a new defense line along the upper reaches of the Dnieper River. The Red Army command within the two large pockets had lost control over events entirely; by 29 June 1941, for example, evidence exists which shows that the commanders and staffs in the still developing

1. Roads = number roads radiating out from urban area; Rails = number rail lines radiating out; Telex = telephone exchange; Tel-relay = telephone relay apparatus.

eastern pocket were two or three days behind the actual German movements. Soviet prisoners interrogated by German intelligence personnel in Panzer Group 2 stated that they had received the order on 29 June 1941 in Novogrodek to retreat to Baranovice. If they found that city occupied, they were "told to go east to Stolpce and Minsk."¹ The almost incredible fact is that the Soviet headquarters issuing the orders did not know that the Germans had passed through Baranovice three days earlier (at about 1430 on 26 June 1941), seized Stolpce near midnight of the same day, and entered Minsk on 27 June 1941.

The increments of distance in which the 17th Panzer Division moved daily may partly explain the dislocation of the Soviet command. After two days of movement totalling 120 kilometers on 22, 23 June 1941, the division moved only 40 kilometers on 24 June and remained stationary in heavy combat around Slonim on the following day. Then, suddenly, two days later the Panzer division appeared at Minsk 180 kilometers away to the northeast. The pattern of movement as well as the long distances may well have kept the Soviet command off balance and in the dark about the locations of divisions like the 17th Panzer with long range, strategic objectives. Such a pattern was characterized by an initial substantial rate of movement, followed by an almost static period, and finally an enormous acceleration to the seizure of strategic terrain. The pattern might be formally noted as the "accelerated breakthrough." The Germans did not

1. See Panzer A.O.K. 2, Ia, Anlagen, Kriegestagebuch Nr. 1, 1. Band, 1.7.41., 2, Abschrift Fernsprechbuch, p.4, Bundesarchiv, Freiburg, RH21-2/V.113.

plan such a pattern but rather rode with the circumstances in the opening stages of Barbarossa which called forth the pattern. One would suspect that the accelerated breakthrough could be found in other Barbarossa-like offensives, and, indeed in France in May 1940, one can see a similar pattern: (1) initial substantial rate of movement lightly opposed through the Ardennes, (2) heavy combat along the Meuse against French forces too strong either to ignore or avoid, and (3) an enormous acceleration of movement to the seizure of strategic terrain, e.g., in the French case, the Channel coast.

The 17th Panzer Division was not alone in its pattern of movement during the opening stages of Barbarossa. Farther south the advanced elements of the 3rd Panzer Division along with the division commander, Lt. Gen. Walter Model, moved the substantial distance of 150 kilometers on 22, 23 June 1941, reaching the Schara (Szara) River in a drive designed to get farther east to the Dnieper as soon as possible in order to prevent the buildup of a new Soviet front. During the next day, 24 June 1941, the division established bridgeheads, gathered up its trailing elements, and fought off heavy Soviet attacks all within a distance of approximately 20 kilometers of the Schara River. Halfway through the next day, 25 June 1941, the 3rd Panzer Division moved through the bridgehead and accelerated eastward with intermediate target Sluzk (Sluck) and more distant, strategic target Bobruisk (Bobruisk) where the Soviets would be forced by geographic conditions to attempt to construct a new front. At 0450 on 28 June 1941, two and one half days later and 245 kilometers distant, men of the light 20mm-gun tank platoons

of the 1st Battalion, 6th Panzer Regiment, 3rd Panzer Division, raised the Reich battle flag over the tower of the Bobruisk citadel.¹ The 3rd Panzer division stood 440 kilometers by road into the Soviet Union. It had achieved that distance in an accelerated breakthrough similar to that of the 17th Panzer Division but against a different objective farther south.

In the meantime, farther north, the German 8th Panzer Division, LVI Panzer Corps in Army Group North had achieved a deep breakthrough which offered the Germans a strategical opportunity to collapse the Soviet Baltic front. The breakthrough developed in the same accelerated pattern as farther south but under different circumstances. Lt. Gen. Brandenberger's division moved the substantial distance of 80 kilometers on 22 June 1941, to take the bridge over the Dubissa River at Ariogala. The entire following day, 23 June 1941, the 8th Panzer Division remained essentially stationary while heavy Soviet armored forces comprising approximately 350 tanks including a substantial portion of T-34 and KV-II (152mm gun) models moved across the front of the division heading north and northwest to attack the two German Panzer divisions lying to the west. On 24 June 1941, the 8th Panzer Division moved 80 kilometers through Kedainia to Wilkomerz (Ukmerge) rupturing direct communications between the Headquarters, Soviet 11 Army in Kovno (Kaunas) and Headquarters, Soviet 8th Army in Schaulen

1. Traditionsverband der Division, Geschichte der 3. Panzer-Division, Berlin-Brandenburg 1935-1945 (Berlin, 1967), p.118, and Interview, Maj. Gen. Pape, Benrath, W.Germany, Jan 80.

(Siauliai), and the transportation system between the two armies. On the following day, 25 June 1941, the division reached Utena, and during the evening sent out two small combat groups to seize the road and rail bridges at Dunaburg (Dvinsk) on the Dvina River. The groups seized the road bridge intact just after 0630, 26 June 1941, having moved 200 kilometers in the previous two days. An aggressive but overloaded Soviet command in the Baltic missed the presence of major elements of a Panzer division at Ariogala. The acceleration of the division out of its bridgehead to seize the strategic terrain at Dunaburg, however, could scarcely have been considered as a reasonable probability even by a more alert defender.

The movement and fire of the German Panzer and motorized infantry divisions and the great infantry armies marching behind them inflicted massive trauma on the defending Red Army forces. The Luftwaffe had also inflicted unparalleled losses on the Red Air Force and was able by the third day of the campaign (24 June 1941) to shift emphasis to close air support of the German field armies and interdiction of the Soviet lines of communication. The Luftwaffe had achieved air supremacy, and its nimble medium bombers and extraordinarily accurate dive bombers had virtually free rein over the Soviet divisions for the year 1941. Although the 1,300 medium and dive bombers represented small numbers for an area as large as the eastern Front, the Luftwaffe was able to keep an effective percentage in operation and concentrate them in support of the known offensive Schwerpunkten. The German Army, in addition placed an emphasis on aerial reconnaissance, observation, and liaison unmatched by any other army in the world

at that time. The Germans, in addition to the total of approximately 1800 bomber, dive, attack, destroyer, and fighter, aircraft in the East on 22 June 1941, had a total of approximately 470 reconnaissance, observation, and liaison aircraft. With air supremacy, the Germans were able to employ their aircraft effectively to avoid tactical surprise and seize special tactical opportunities. The buildup of Soviet antiaircraft gun defense systems later in the campaign began to reduce the effectiveness of such aircraft which had been conceived by the Germans as necessary for great mobile campaigns similar to those in Poland, France, the Balkans, and the opening stages of Barbarossa.

The insertion of the Luftwaffe by the third day of the ground war as a great mobile bombardment force in support of the field armies deserves special emphasis. The collapse of the Luftwaffe by 1944 in the West, and the overwhelming of the Luftwaffe in the East by about the same time, have had a tendency to reduce some of the luster of its earlier performances. The two-engined medium bomber and the dive bombers were designed specifically for tactical support of the Army and comprise a factor which significantly increased the mobility and firepower of the field armies. The defensive trauma levied against the Red Army by the Luftwaffe is difficult to ignore and included (1) casualties and damage to the field armies inflicted by ground attack, and (2) paralysis of movement caused by the destruction of transportation facilities and the threat and execution of ground attack through the presence of German aerial reconnaissance aircraft and tactical bombers. Soviet Maj. Gen.

Jegorov who commanded the Soviet 4th Rifle Corps was captured in the Bialystok pocket just north of the small city of Dertschin (Derecin) on 1 July 1941 and stated that "on the very first day of the campaign, the units of the corps were bombarded by the Luftwaffe (near Grodno) and began to disintegrate." As a reason for the further "panic and disintegration" in his division, Jegorov gave "1. the immense effectiveness of the German Luftwaffe, 2. the lack of any communications, 3. the (physical) encirclement and the flanking fires by German artillery and machine guns."

The Luftwaffe intervened strongly in the ground combat in Barbarossa and surprisingly early in the operation. The historical lesson or warning would seem to be the following: although some of the geographical circumstances are different and certain technological factors have changed, e.g., a denser transportation network in Western Europe and radar controlled air defense systems, several general principles are still operating which give an attacker generic advantages over a defender. If the Soviets, for example, elect to seize the offensive and if they achieve some degree of surprise, the probability is great that the NATO air forces will take heavy losses with initial adverse exchange ratios based on having aircraft caught on the ground and being forced to react to an enemy operating within a plan and with his effort concentrated at crucial points in the battle. One can expect also that the air defense system will take initial, heavy losses. The end result for NATO is a situation similar to that in the opening stages of the Russo-German Campaign in which the Luftwaffe achieved the following:

1. Trauma Inflicted on Defending Air force and Air Defence System: Luftwaffe destroys 3,000 Soviet aircraft in first 42 hours of combat. Exchange Ratio approximately 90 Soviet aircraft for 1 German aircraft lost through combat.
2. Trauma Inflicted on Defending Ground Armies:
 - a. Destruction: Luftwaffe inflicts casualties and damage to troops, tanks, trucks, artillery positions
 - b. Paralysis: Luftwaffe attacks bridges, other transportation facilities, telephone exchanges, radio stations, truck and march columns, trains, headquarters and command posts. Luftwaffe establishes restrictive aerial surveillance over Soviet ground armies.

The Luftwaffe in close cooperation with Army Group Center supported the great encirclements planned by it for at Minsk and later at Smolensk by selectively destroying bridges in White Russia. The Luftwaffe, with extreme care, avoided damaging bridges necessary for the advance of Panzer Groups 2 and 3 through Brest and Vilna. In contrast, the Luftwaffe systematically and decisively destroyed bridges within the great encircling arms of the Panzer groups, across which the Soviet 3rd, 4th, and 10th Armies would attempt to withdraw or ultimately flee eastward.¹ The historical lesson and warning for NATO, in terms of the general factors which operated during Barbarossa, is the reasonable probability that an attacking Soviet Air Force with the initial advantages of surprise, initiative, and

1. Interview, Colonel Hans-Ulrich Rudel, Chicago, Illinois, December 1979. Col. Rudel, the premier combat aviator in the history of military aviation, emphasized the importance that the Germans placed on knocking out Soviet bridges in the early stages of Barbarossa. He noted that the Knights Cross which he received in September 1941, was issued for his decisive attacks against bridges earlier in the campaign with Army Group Center as well as his well known destruction/sinking of the Soviet battleship, Marat.

concentration of effort could achieve a significant disruption of NATO ground movement and C³ through both ordnance attacks and counter electronics "strikes" against transport and command facilities. The unusual twist, which emerges from Barbarossa, is that the Soviet Air Force might attack a large number of bridges to block NATO forces from moving across the Rhine and other rivers.

In Barbarossa, the fire and movement of the German Panzer, motorized infantry, and infantry division inflicted severe casualties and material losses on the defending Soviet armies. The severity of the Soviet losses is worth examining in detail, because it was associated with general principles and factors which operated in Barbarossa and could be assumed to be present in similar, grand offensives in the future. The Germans inflicted casualties, whose absolute values were great by any standards, and exchange ratios, which were even more extreme. The reasons for such casualty exchanges in Barbarossa also can be found to some degree in the unique historical relationship between the German and Red Armies in 1941. This unique relationship, which existed at a single, brief interval of time, can be characterized as that of a well trained, combat experienced, high technology, confident German Army in combat against a less effectively trained, Soviet peacetime army, with lower technological standards, and a slight but pervasive sense of inferiority. The unique German advantages of 1941 were accentuated by the general factors or principles of military operation which the Germans determined to seize by launching a surprise attack against the Soviets. The results of the initial

weeks of combat illustrate an extraordinary imbalance in casualties in Barbarossa which if even remotely approached in a Soviet offensive against the West would be disruptive and possibly fatal. The overall results can be summarized as follows:

Barbarossa Casualties

(Soviet Western Front)¹

<u>Soviet Casualties</u>		<u>German Casualties</u>	
<u>22 June - 8 July 41</u>	(Bialystock-Minsk)	<u>22 June - 8 July 41</u>	
1. KIA - 100,000		1. KIA - 4,842	
2. POW - 310,000		2. POW - Virtually none	
 <u>9 July - 27 July 41</u>		 <u>9 July - 27 July 41</u>	
	(Smolensk)		
1. KIA - 90,000		1. KIA - 5,400	
2. POW - 310,000		2. POW - Virtually none	

The casualty figures show that the Germans, who were on the offensive and experienced the tactical hazards associated with being a relatively exposed attacker, suffered relatively light casualties, i.e., approximately 4,842 KIA in Army Group Center, while inflicting approximately 100,000 KIA on the defending Soviets. The exchange ratio is a staggering 21:1 in favor of the Germans and of record proportion for modern combat on a large scale. Perhaps of even more significance is the total of 323,898 POWs, most of whom were taken in the period of the setting of the first encirclement around Bialystock on 25 June 1941 through the collapse of the second cauldron west of Minsk on about 3 July 1941. The historical case is of particular significance because the use of statistical models of combat as, for example, the well known Lanchester Equations, which give expected values of

1. See, HeeresGruppe Mitte, Ia, Tagesmeldungen, 22.6.41-15.7.41, Bundesarchiv, Freiburg. RH 19II/128, p. 210 of file for Soviet casualties for the "double battle of Bialystok and Minsk."



Illustration 19. GERMAN FIREPOWER: The German infantry squad was built around the fire developed by the MG-34 (later MG-42) shown above in the midst of an infantry squad at Kalefnik, East Prussia, on 10 June 1941, during the concentration for Barbarossa.



Illustration 20. BARBAROSSA COMBAT: Pictured above are two Soviet soldiers in the act of being captured by the German soldier at right center with pistol in hand. Opposite Army Group Center alone from 22 June - 27 July 1941, the Soviets lost 634,000 men as prisoners. Note the soldier in the left foreground with hand grenade out.

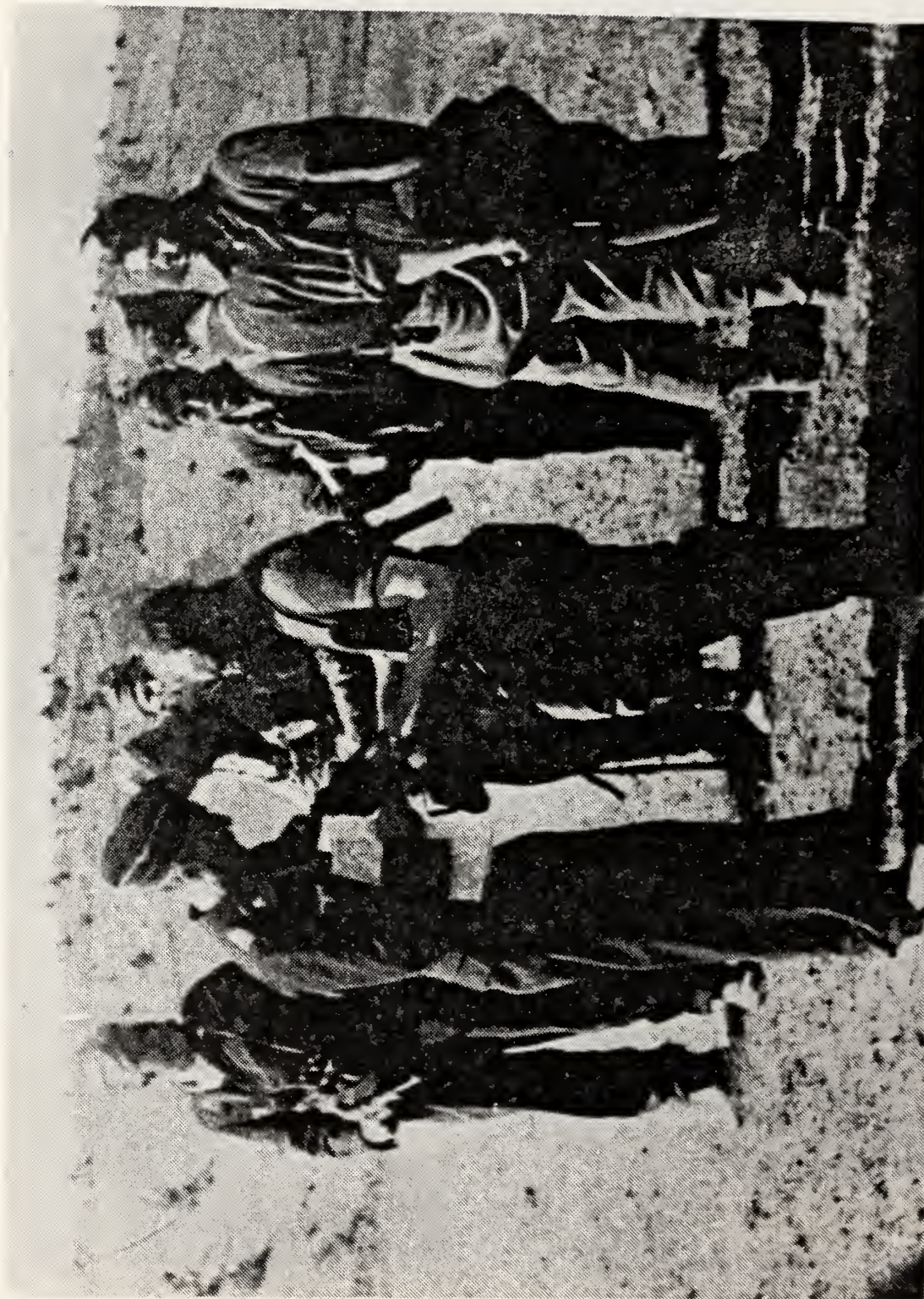


Illustration 21. The Germans in Army Group Center inflicted tank losses of epic proportion on the Red Army formations on the Soviet Western Front. Shown in the photo are two Soviet tank crewmen (1st and 3rd from right) immediately after capture and still being held by German tank crewmen at casual pistol



Illustration 22. General (German Generaloberst) Hermann Hoth at right in a rare photo with Heinz Guderian. These two German leaders headed the Panzer forces of Army Group Center and pulled along the conservative infantry army commanders in the center and the imaginative, but erratic and nervous military dilettante, Adolf Hitler, to Smolensk and a hairsbreadth away from final victory within 24 days of the opening of Barbarossa.



Illustration 23. Shown here as Lieutenant General (German General der Infanterie) and Commander, 56th Panzer Corps, in Lithuania in 1941, Erich von Manstein has the historical reputation of possessing the finest operational mind in the Second World War.

casualties based largely on the number of attackers and defenders, are ineffective for the opening stages of Barbarossa and similar surprise attacks. The German field armies in Army Group Center had only a modest initial advantage in numbers for an attacking force, and equations based on principles similar to those of the Lanchester Equations could not be expected to give 21:1 values especially 21 defenders versus 1 attacker. Although prisoners are lost as completely as KIAs to a combat force, the Lanchester Equations do not take account of such casualties. Yet the historically verifiable figure of approximately 324,000 Red Army personnel fell into the hands of the Germans in the double battle of Bialystok and Minsk, and one must suspect that significant numbers of NATO troops would be captured by the Soviets in a similar major surprise attack.

The Germans certainly disrupted the Soviet armies opposite Army Group Center with approximately 424,000 casualties in killed and captured during the first two and one half weeks of the campaign. The Soviets were battered almost as severely during the next three weeks, and by 27 July 1941, they had suffered approximately 400,000 additional casualties in combat with Army Group Center for a grand total of well over 800,000 killed and captured in five weeks of combat. The Soviets stubbornly contested the German advance from the outset of the campaign and it is inaccurate to say that they traded space for time. The stubborn defense as far west as possible resulted in the immense casualties noted above and it is more accurate to say that the Soviets with characteristic pragmatism acknowledged the superior mobility of the German armies and were willing to take

the casualties to slow them down and keep them from penetrating to the strategic terrain around Moscow. In an alternate analysis it could be reasoned that the Soviets sensed there was not enough space in the Soviet Union to prevent Army Group Center from seizing Moscow without fighting against it along every inch of the way, i.e., they were forced to trade casualties and space for time. In an analogous situation today, the West finds itself as a voluntary defender with little space and little apparent willingness to accept casualties on the scale of the Soviet model for survival in Barbarossa. It is doubtful, of course, that the Western political or military leaders expect to experience exchange ratios of 21 defenders to 1 attacker killed in action and equally doubtful that they consider, as realistic exchange ratios of 88 defenders to 1 attacker in killed and captured.¹

The following factors tend to explain the disparity in casualties: (1) strategically the Germans achieved surprise and concentrated their effort in various Schwerpunkten of their own choosing, and (2) tactically the Germans with their Auftragstaktik, superior training, greater combat experience, unique machine gun tactics, flexible artillery techniques, and proven combined arms Panzer divisions, dominated the Soviets in combat. Soviet Major General Jegorov noted the contribution of the flanking fires of German artillery and machine guns to the panic and disintegration in the corps which he commanded, and one can sense in his words, the tactical expertise, economy of

1. Based on 424,000 Soviet KIA and POW from 22 June-8 July 41, and 4,842 Germans KIA and POW during the same period.

effort, and flexibility with which the Germans operated at Bialystok, Minsk, and Smolensk. Retired Major General Pape, who commanded the 1st Battalion, Schuetzen (Mechanized Infantry) Regiment 394, 3rd Panzer Division, from 27 June 1941, at Bobruisk, commented that his men had been trained and drilled to respond immediately to heavy resistance and noted that significant fire from a village against a column of troops could result in an attack begun simply with the leader's command: "combat in village".

The factors noted, however, do not fully explain the German domination of opponents as tough and numerous as the Russian riflemen and as dangerous as the vast Soviet tank formations. The Germans after all had only a moderate numerical superiority in troops¹ at the beginning of the campaign, which in spite of the immense casualties which they inflicted on the Soviets, was compensated for by ruthless, brutal, methodical, and efficient Soviet recruiting and willingness to accept casualties among the untrained levies. As attackers, however, the Germans were able to concentrate their effort at critical points of their own choosing, and in some cases were able to achieve local heavy numerical superiorities. On the other hand, even under such circumstances, the Germans as attackers were forced to expose themselves more in combat with a logical necessity to take comparatively heavy casualties in the movement toward the

1. The Germans were heavily outnumbered by the Soviet tanks and even the numerous Soviet T-26 and BT-5 type vehicles were equivalent in gun armour piercing capabilities with their 45mm antitank canon.

defender. It is particularly significant to note in the great encirclements near Minsk, Bialystok, and Smolensk that the Germans found themselves for days on end as defenders against powerful Red Army forces massed to break out of the cauldrons. Under those circumstances, the Germans, although strategically on the offensive, were tactically on the defensive over large areas for long periods of time. On 27 June 1941, the day that Panzer Group 2 completed the Minsk encirclement, 15 German infantry and one motorized infantry division stood in a tight encirclement of 13 Soviet divisions and four tank brigades to the north and east of Bialystok.¹ The German 29th Motorized Infantry Division under Maj. Gen. von Boltenstern, held the line of encirclement to the east, i.e., in the area in which the Soviets were trying to break out, and stood largely on the defensive between 26-30 June 1941. During that time, the Division, intact, confident, and in secure blocking position inflicted fearful damage on the disintegrating Soviet attackers with its artillery and machine guns. The 71st Motorized Infantry Regiment of the division took the extraordinary total of 30,000 Soviet prisoners in that five days of combat in return for moderate losses of its own.

Army Group Center continued its advance beyond Minsk in a pattern similar to the one which had led to the formation of the two great pockets of Soviet troops now lying to the west of the advanced elements of Panzer Groups 2 and 3. The leaders of the two Panzer Groups, Generals Guderian and Hoth, agreed that the mobile division should immediately press on to prevent the

1. See Map 3.



Illustration 24 GERMAN COMMAND: Direct coordination being effected among Army Group Center (v. Bock at left), Panzer Group 3 (Hoth second from left) and VIII Air Corps (v. Richthoven) at far right.

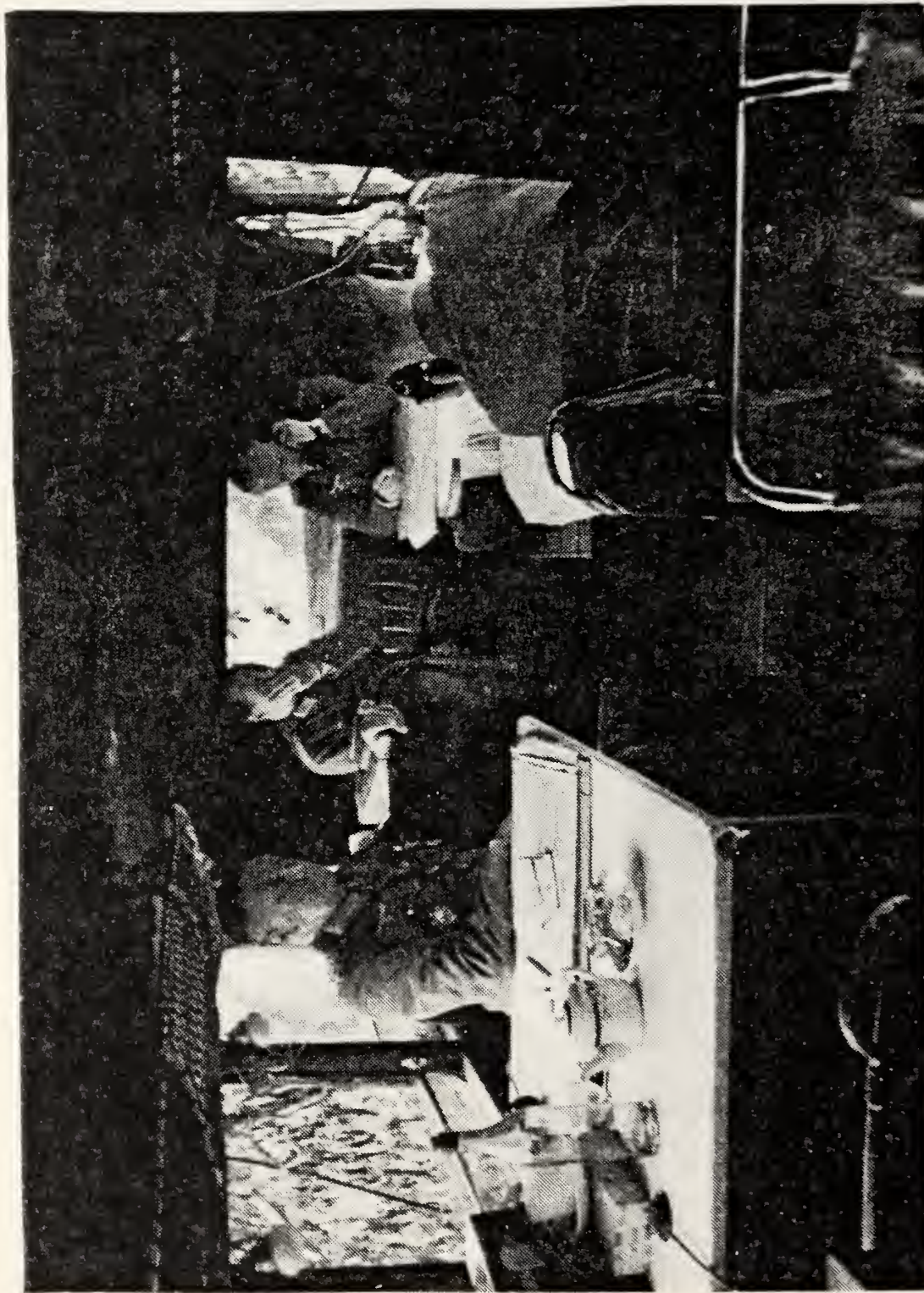


Illustration 25. GERMAN COMMAND STYLE: The headquarters of German corps generally used busses as illustrated above for the Commander, Chief of Staff, and sometimes other staff officers. The Germans could communicate with telephones and radios from the busses.



Illustration 26. GERMAN COMMAND STYLE: A German colonel commanding probably a motorized infantry regiment operates here out of the rear of a German SdKfz 250, light armored half tracked vehicle (Schuetzenpanzer). The photograph, taken in June 1941 in the Soviet Union, presents a command scene which has an almost contemporary appearance to it.



Illustration 27. GERMAN COMMAND STYLE: More orders from the saddle. The German colonel at left giving orders to the officer at right (map in hand) in a SdKfz 250, light armored half track, used most often as a command vehicle.

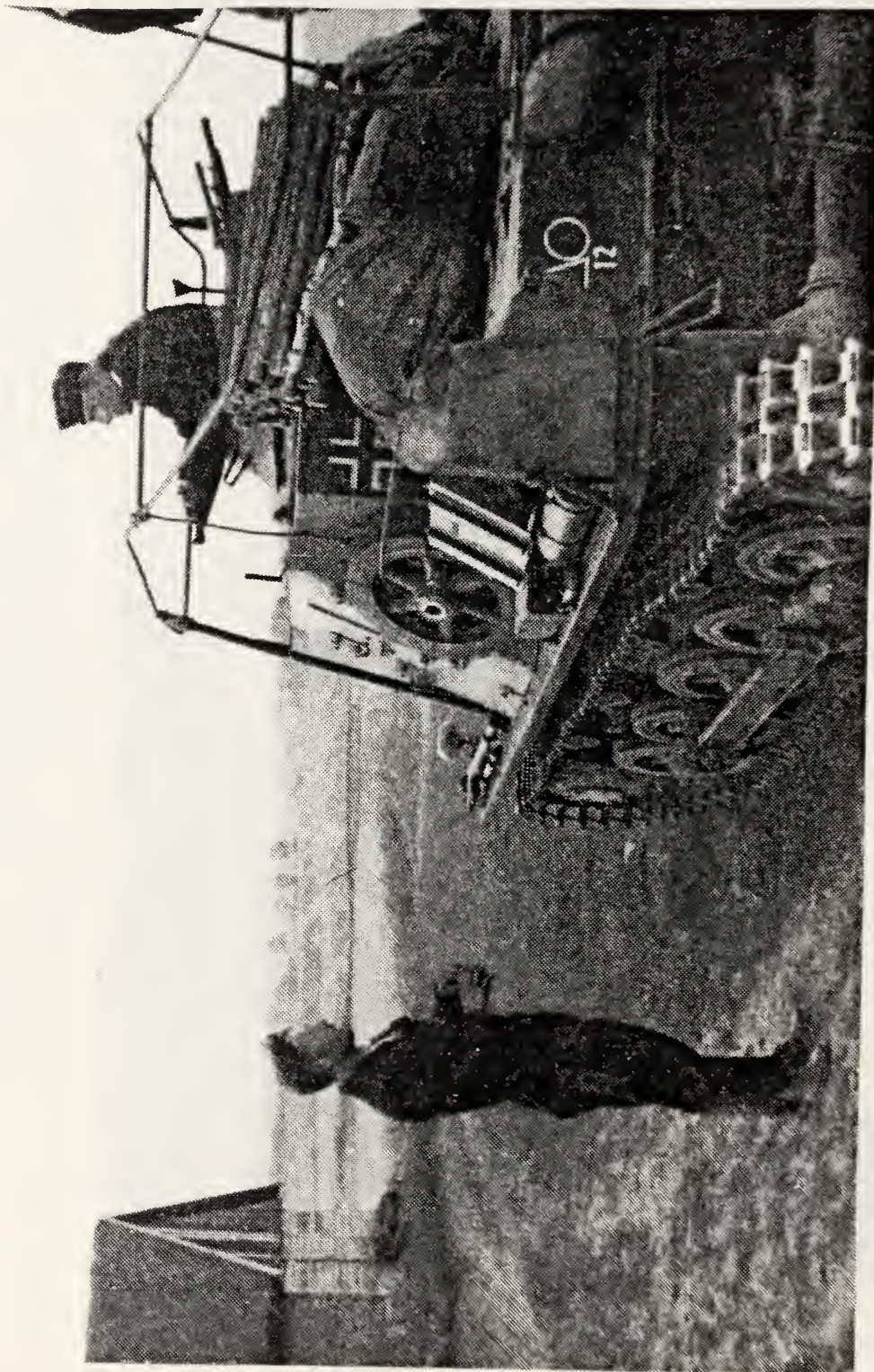


Illustration 28. GERMAN COMMAND STYLE: The Germans modified an extraordinary percentage of their tanks to serve as specialized command vehicles. Shown above is a modified PzKw I tank with turret removed and superstructure built up to serve as a mobile command center. Photograph taken in the first several weeks of Barbarossa.

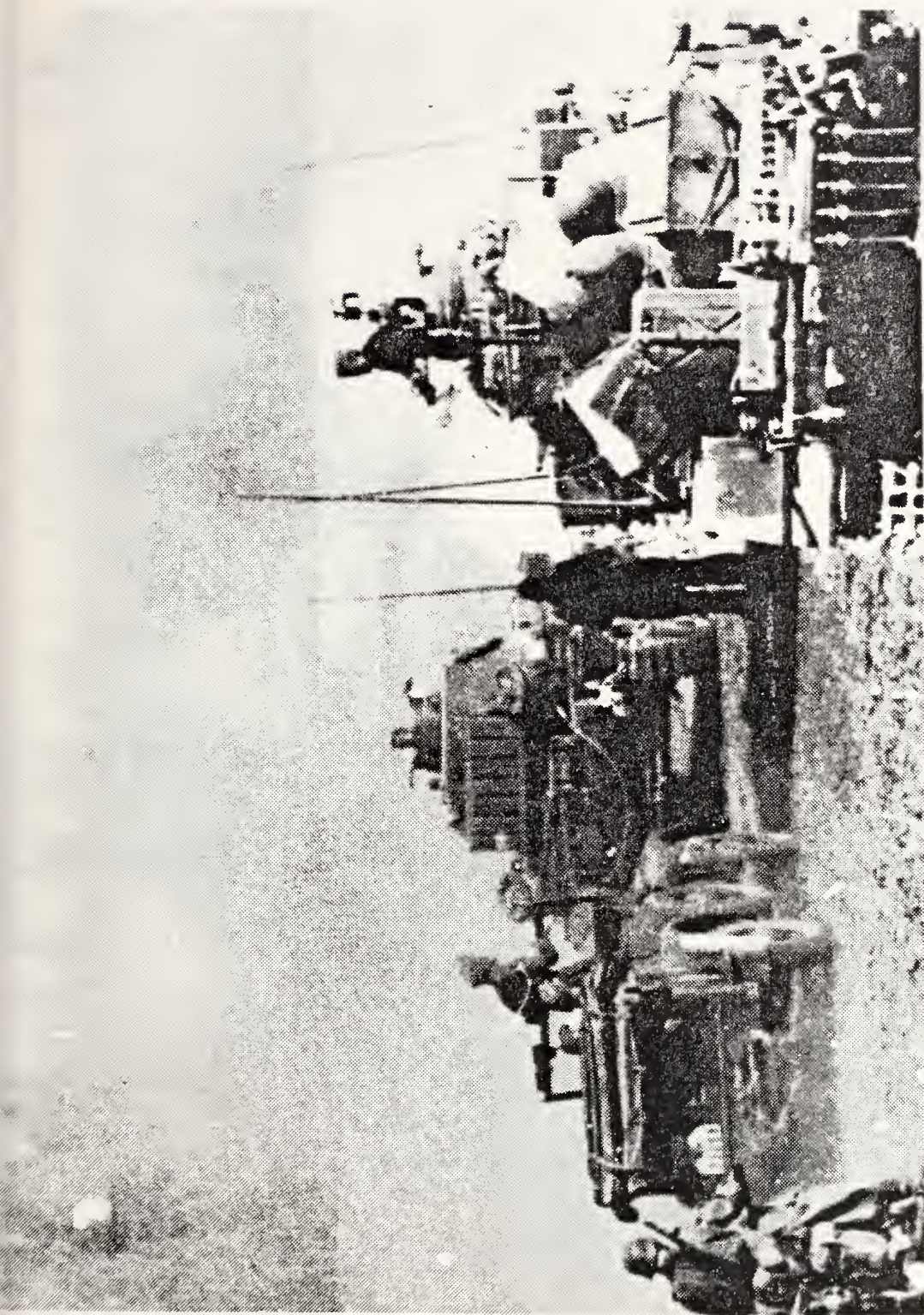


Illustration 29. GERMAN COMMAND STYLE: The scene is early in Barbarossa, probably late June 1941. At right foreground in photo is a rear view of a German specialized command tank on a PzKw I light tank chassis. In front of it is a PzKw III main battle tank with commander in cupola receiving "orders from the saddle" from the officer in the command car at left.



Illustration 30. DEFENSIVE TRAUMA: The Germans captured huge numbers of Red Army prisoners in the period June - October 1941. Shown above is a Soviet prisoner, possibly an officer, emerging from a formal concrete fortification. Unlike the general situation in Barbarossa which approached numerical parity, the Russian here is heavily outnumbered.



Illustration 31. SOVIET DEFENSIVE TRAUMA: Shown above, a Soviet prisoner of war laager near Minsk containing in and to the left of the photograph, 25,000 prisoners. In the period 22 June - 8 July 1941, in the Bialystok and Minsk encirclements, the Germans took 324,000 Soviet prisoners.

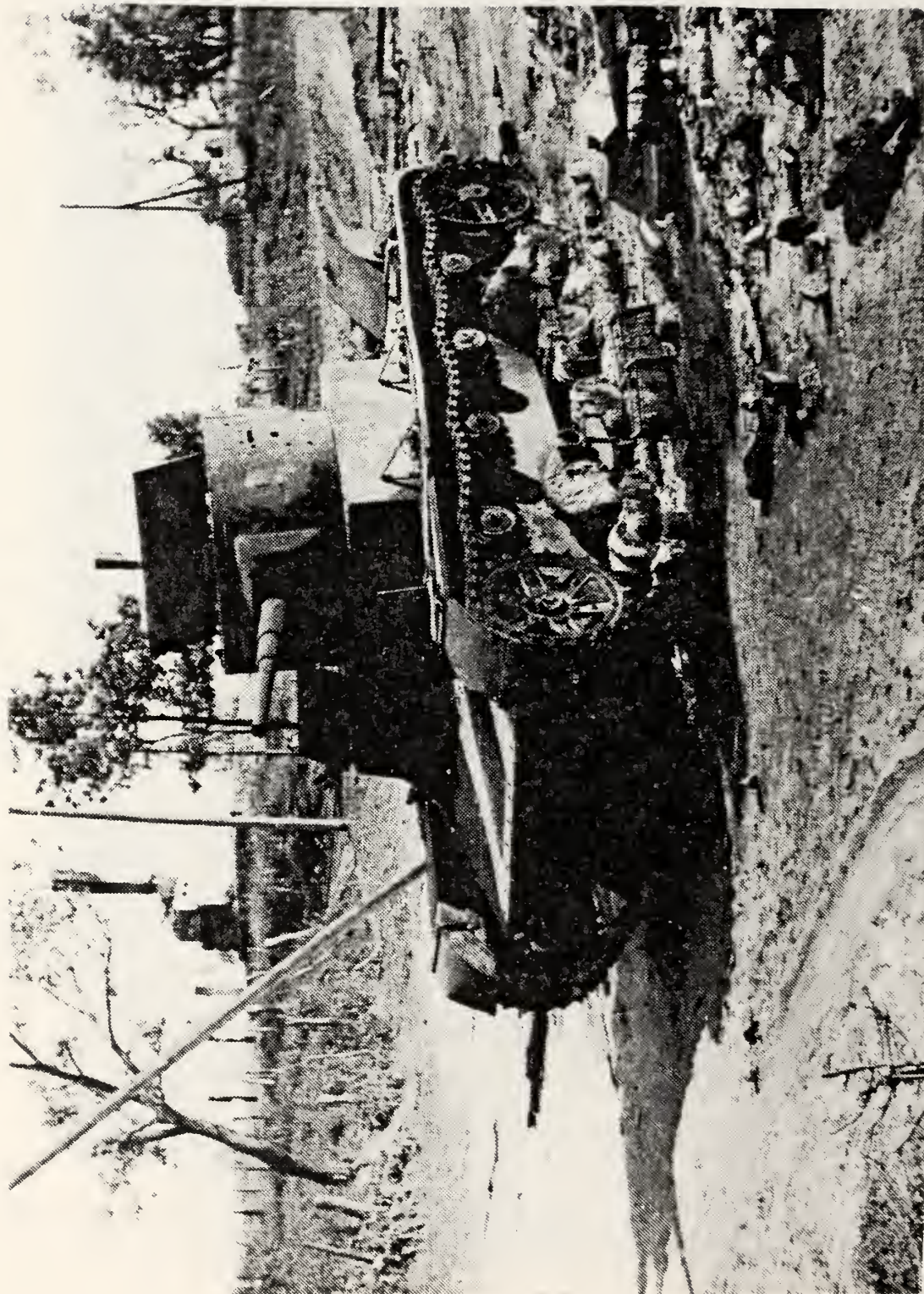


Illustration 32. SOVIET DEFENSIVE TRAUMA: The most numerous tank in the immense Soviet inventory was the T-26 tank shown above burned out. Both the German standard 37mm antitank gun and the tank cannons dominated the armor of this 10-ton tank. The powerful 45mm antitank gun mounted

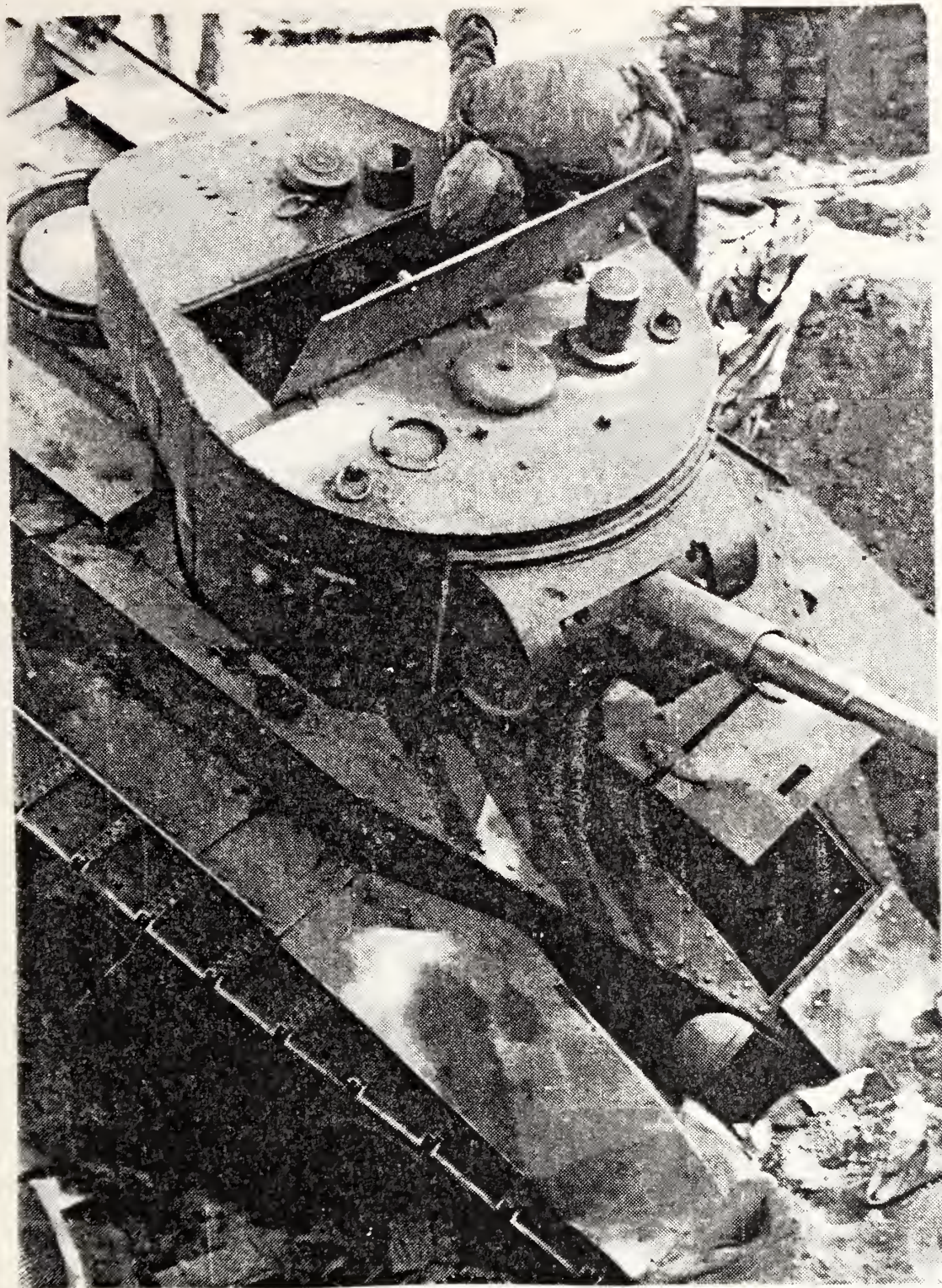


Illustration 33. DEFENSIVE TRAUMA: The Germans in Army Group Center destroyed or captured approximately 6,500 Soviet tanks in the period 22 June - 27 July 1941. Shown above is a BT-7 fast cavalry tank, a 15-ton vehicle with 45mm cannon.



Illustration 34. SOVIET DEFENSIVE TRAUMA: In 1940 and 1941, the Soviets produced significant numbers of the T-34A tank shown above. The tank was superior in armor protection, gun antiarmor performance, and cross country trafficability to the German tanks of the day. In contrast, its two-man turret gave it a critical deficiency in rate of fire and target acquisition. Shown above, it has been knocked out in spite of its heavy, sloped armor.

Soviets from building up a new front along the line of the Dnieper and the terrain just to the north of Orsa around Vitebsk (see Maps 1-6, especially 3). The leader of Army Group Center, the redoubtable Field Marshal Fedor von Bock, was convinced that a swift move past the Dnieper was crucial for seizing the terrain around Smolensk on schedule but was also bound by directions from OKH to secure the Bialystok pocket. The officers, who commanded the German 4th and 9th Armies on 27 June 1941, were also concerned about the violence of Soviet attempts to break out of Bialystok pocket and the problems of setting the additional lines of encirclement around the new pocket north of Novogrodek. Field Marshal von Kluge and General Strauss felt that the Dnieper crossing should be delayed until their foot marching infantry division could catch up and assist in the drive to Smolensk.

In the time period 28 June - 2 July 1941, Guderian and Hoth worked hard to assist the infantry armies in maintaining the lines of encirclement of the Novogrodek cauldron while simultaneously pushing forward all of the mobile divisions possible into bridgeheads across the Beresina River in the south and up against the Western Dvina in the north. On 3 July 1941, the remnants of the Soviet armies trapped in the Bialystok cauldron surrendered and thus freed approximately 16 German infantry divisions, which had been pressing in on the lines of encirclement, to move eastward. At this juncture in the campaign, Guderian estimated that it would take the infantry divisions two weeks to arrive at the Dnieper and more time to participate in an attack. Panzer Group 2 went on to expand aggressively the German bridgeheads over the Beresina and reach

the Dnieper in the time period 3-7 July 1941, and noted an ominous buildup of Soviet forces which had developed out of the Soviet mobilization and was characterized by ultra aggressive attacks by poorly led Soviet forces. On 7 July 1941, Guderian made the highly independent decision to cross the Dnieper using only Panzer and motorized infantry divisions of the Panzer Group and press on to seize the strategic terrain around Smolensk and Yel'nia. The decision was bold and correct, and showed the Auftragstaktik operating efficiently within the general framework of the mission to seize the strategic land bridge around Smolensk. Over the objections of his immediate superior, Field Marshal Guenther von Kluge, commander of the recently formed (3 July 1941) 4th Panzer Army, he ordered the attack for 10-11 July 1941. In his memoirs, Guderian notes he was convinced that the attack would succeed and the operation would decide the Russian campaign in the year 1941.¹

Such an interpretation of circumstances was largely correct. Hoth and Guderian working in concert had attacked soon enough after the rapid drive to Minsk to keep the Soviets off balance and maintain the tactical situation fluid in the sector of Army Group Center. Although 13 days had passed since the German mobile divisions had swirled around and into Minsk, the Soviets had not been able to put together a coherent defensive front. On 10-11 July 1941, Guderian's Panzer forces successfully crossed the Dnieper against the fierce but poorly coordinated Soviet counterattacks and the threat of a counteroffensive by strong

1. General Heinz Guderian, Panzer Leader (New York, 1956), p. 169.

forces moving in from the south and east. In the meantime, Panzer Group 3 under Hoth, had taken Vitebsk and began its drive toward Smolensk approaching that communications center from the northwest. Both commanders hoped to breakthrough and accelerate forward to Smolensk while simultaneously encircling major Soviet forces and disintegrating the Soviet front on the upper reaches of the Dnieper.

Similarly to the pattern of movement through Soviet resistance earlier in the campaign around Slonim, the German divisions made enormous gains across and along the Dnieper. The German 29th Motorized Infantry Division successfully crossed the Dnieper at Kopys early Friday morning and advanced against the Soviet 18th and 54th Rifle Divisions. After heavy fighting in the bridgehead area on Friday and Saturday, 11-12 July 1941, the 29th Motorized Infantry Division drove 100 kilometers on 13 July through the Soviet defenses to reach a point 18 kilometers southwest of Smolensk. The dramatic advance of the division fractured the Soviet front cutting off the powerful Soviet forces at Orscha (Orsa) from the strong forces being pushed back from the Dnieper farther south. As the 7th Panzer Division under Brig. Gen. von Funck and the 20th Panzer Division under Brig. Gen. Stumpf had broken through north of Smolensk at the same time, the Soviets saw themselves face-to-face with yet another cauldron forming this time between Orscha and Smolensk.

The same German troops in Panzer Groups 2 and 3, who had successfully encircled the Soviets at Bialystok and Novogrodek were accomplishing a similar task 380-500 kilometers further to the east at Smolensk.¹ The effects of the original German

strategic and tactical surprise of 22 June 1941 lingered on in the form of Luftwaffe air supremacy, heavy Soviet casualties, and the inability of the Soviet command to slow the German advance to a manageable pace. In spite of the difficulties of advancing against an enemy with approximate numerical parity behind a major river barrier, the qualitatively superior Germans continued to hold on to the initiative and concentrate their efforts into advances which surprised, fragmented, and overwhelmed the Soviets.

By 16 July 1941, the 29th Motorized Infantry Division had seized control of Smolensk and the 7th and 20th Panzer Divisions lay astride the Minsk-Moscow completing a loose encirclement of major Soviet forces lying west and northwest of Smolensk. The German mobile divisions by their physical presence forced the Soviet Headquarters, Western Front, to displace more than 180 kilometers to the east to Juchnov, which lay in turn only 180 kilometers from Moscow. Soviet telephone communications and ground transportation to the Red Army forces encircled east of Mogilev and hemmed in further north at Lubavici Demidov were cut by the Germans. The Soviet 13th, 19th, and 20th Army Headquarters managed to slip away to the east but lost control over the approximately 17 Soviet divisions encircled or hemmed in by the Germans. The deep penetration of the 7th and 20th Panzer Divisions north of Smolensk, the movement of the 29th Motorized Infantry Division into Smolensk, and the drive of the 10th Panzer

1. The distances are from the centers of the pockets when they were first formed on 25 and 27 June 1941, i.e., 500km from the area northwest of Volkovysk, and 380 km from Juratiski north of Novogrodek (see Map 4).

Division of Maj. Gen. Schaal through Potschinok (Pocinok) to Jelnja (Yelnya) on 20 July 1941, had completely shattered Soviet communications and road and rail transportation across the front of German Army Group Center.

The Germans intended to trap and destroy as much as possible of the defending Red Army formations and the results by the end of July had been catastrophic for the Soviets. The 7th and 12th Panzer Divisions of Panzer Group 3, attacking near Vitebsk on 11 July 1941 at the beginning of battle for Smolensk, destroyed 101 Soviet tanks in tank versus tank combat, approximately half of which were T-34 or KV models.¹ In contrast, but with the same impressive results, the anti-tank gunners of the 529th Antitank Battalion destroyed 51 Soviet tanks on the same day.² Farther south, in Panzer Group 2, the 17th Panzer Division "annihilated in heavy fighting over 250 enemy tanks" and inflicted heavy casualties on the accompanying Soviet motorized infantry forces in engagements in the same area near Sjenno (Senno) between 7-10 July 1941.³ The 18th Panzer Division, advancing immediately to the south, knocked out 40 Soviet tanks on 7 July 1941. In the brief period 7-11 July 1941, those four Panzer divisions, destroyed more than 391 Soviet tanks while moving across the Vitebsk land bridge and concentrating for the drive to Smolensk.

The heavy fighting by the German armor, which had the

1. Heeres Gruppe Mitte, Ia. Tagesmeldungen, 22.6.41-15.7.41, A.O.K.4 Tagesmeldung, Bundesarchiv, Freiburg, RH 19II/128, p. 218 of file.

2. Ibid., p. 223 of file, paragraph 8.

3. Panzer A.O.K.2, Anlagen, Kriegstagebuch, 13.7.41, Bundesarchiv, Freiburg, RH 21-2/v. 122, p. 107 of file.

initiative and was concentrating for the planned attack into the Smolensk area, confused the Soviet command probably at the Front and army levels. German reconnaissance aircraft supporting Panzer Group 3 reported a heavy column of Soviet troops "on the march south" toward Gorodek on 10 July 1941 possibly moving to support the Soviets in the great tank battles around Senno. German aerial observation reported in the afternoon, however, that same column "is on its way back via Newel (Nevel) in the direction of northeast." The first general staff officer for intelligence (Ic) of the German LVI Panzer Corps, commented on the Soviet activity with the words: "the aimlessness of the movement leads to the conclusion that the Russian leadership is already confused." The following day, 11 July 1941, the German 29th Motorized Infantry crossed the Dnieper at Kopyss (Kopys) with specific objectives to capture a bridgehead and as swiftly as possible drive to Smolensk. The 15th Motorized Infantry Regiment of the division seized a Soviet airfield just north of Sobowa and captured 20 operational fighters in the process of enlarging the bridgehead. While standing on the newly captured field, German troops observed a Soviet aircraft approach the field and land. The Germans grounded the taxiing aircraft with gunfire and proceeded to capture two staff officers from the Headquarters of the Soviet 20th Army. The staff officers were out of touch with the actual progress of events on the ground to the extent that they had flown complete with "valuable maps" into the arms of the German riflemen.

In the fighting, which led to the capture of Smolensk and the formation of several cauldrons to the west of the city, the

Germans took prisoners in a well defined pattern. In the mobile stages of the drive, especially from 10-17 July 1941, the German Panzer and motorized infantry divisions took moderate numbers of Soviet prisoners while effecting the hemming in of the less mobile Soviet forces. As the lines of encirclement were set and the German infantry divisions arrived to assist the mobile divisions, the Soviets took severe casualties in their attempts (1) to break out of the pockets, and (2) to stabilize a new front with fresh but poorly armed and led draftees and battered veterans. The pattern is illustrated by the following data for the German 12th Panzer Division which took approximately 500 prisoners each day on 11, 12 July 1941 as it attacked toward Smolensk and 5,000 on 20 July 1941, while holding the lines of encirclement around several Soviet divisions directly to the west of Smolensk.

The German officers interviewed noted attacks in the Bialystok, Minsk, and Smolensk pockets which indicated a severe degradation of Soviet C³. Such attacks were not coordinated with the other movements and were unsupported by artillery. Witnesses interviewed and those reporting in documents noted as many as ten waves of infantry attacking at ineffectively chosen sectors and with no variation in the point of attack. Witnesses observed the Russians attacking actually with arms linked together, without prior reconnaissance, the troops often inebriated, and shouting the cry, "urrah," incidentally, to the detriment of tactical surprise in the night attacks. The Germans also observed that many troops in the following waves in multiwave attacks were unarmed. One German officer noted on moving through an area near

Smolensk in which his unit had been receiving substantial resistance, Soviet troops on hands and knees drinking vodka out of the ditches on either side of a road near which a large storage container had burst and poured out the colorless liquid.

The reasons for the Soviet casualties were many and varied, but whatever they were, the Soviets suffered extreme losses especially in attempting to break out of the German encirclements. The situation in Central Europe today, however, is substantially different in some respects. The West will not be surprised in the grand sense of being attacked by a diplomatic partner in a nonaggression pact. The West also has well developed plans for defense including withdrawals for considerable distance. In contrast, however, the defending NATO forces will probably not have a copy of the potential Soviet plan of attack and must accept all the deficiencies associated with being surprised at the time and the main points of effort of a Soviet offensive within the theater of operations. The tactical situation is different in Central Europe also. In a potential future Barbarossa II, unlike the case in June 1941, in which a superior German Army attacked a less adept enemy, the Soviets will be attempting to move against coalition divisions with moderate technological superiority, probably moderate superiority in historical command style, and a superiority in C³ hardware. The historical lesson and warning of Barbarossa is that the enormous advantages associated with surprise, initiative, and concentration of effort may allow a determined attacker to overload the opposing enemy commands and accelerate through defenses to a degree that no recovery of the defense may

be possible in the limited space of West Germany. A unique twist which stands out from Barbarossa also is the significant probability that some NATO forces will be encircled and be forced to attack equivalent size Soviet formations under disadvantageous conditions of engagement associated with the breakout situation, e.g., obvious points and times of attack and assault against large, prepared enemy formations.

The Germans, in addition to inflicting severe casualties on the Soviets, destroyed or captured large quantities of materiel. The most important Soviet war materiel would probably include tanks, rifles, machine guns, artillery, and antitank and antiaircraft cannons. Of these weapons, the Germans felt that tanks and cannons were particularly important weapons and demanded that subordinate formations report the numbers of such equipment destroyed or captured. The Germans were critical in their acceptance of claims and sensitive about the possibilities of double counts by different units. The following listing shows the damage inflicted by Army Group Center on the defending Russians in terms of materiel losses:

Barbarossa Materiel Losses¹

(Soviet Western Front)

<u>Soviet Losses</u> ²			
22	<u>June - 8 July</u>	41	
1.	Tanks	--	3,332
2.	Cannons	--	1,809

(Bialystok-Minsk)

<u>Soviet Losses</u> ²			
9	<u>July - 27 July</u>	41	
1.	Tanks	--	3,205
2.	Cannons	--	3,120

(Smolensk)

<u>German Losses</u> ³			
22	<u>June - 8 July</u>	41	
1.	Tanks	--	195
2.	Cannons	--	90

<u>German Losses</u> ³			
9	<u>July - 27 July</u>	41	
1.	Tanks	--	218
2.	Cannons	--	115

1. See H.G.M., Ia. T.M., 22.6 - 15.7.41, Freiburg, RH

Army Group Center inflicted astounding tank losses on the Soviets who had massed a huge quantity of armor in the Western Military District prior to the German attack. Unlike the situation relative to casualties, in which the army group attacked with a slight numerical superiority, the German tank force in the center moved forward with approximately 1,650 tanks against approximately 8,000 Soviet tanks deployed with the forces in the Western Military District on 22 June 1941, or immediately available for use by newly mobilized formations. Based on the numbers of Soviet tanks destroyed or captured by 8 July 1941, one can estimate that approximately 4,000 Soviet tanks were deployed with the Soviet 3rd, 4th, and 10th Armies, and arrive at a conclusion that the tank force with Army Group Center was heavily outnumbered by Soviet tanks. The Germans were able to compensate for the striking inferiority in numbers by taking advantage of the initial surprise and exploiting the factors of initiative and concentration of effort into reasonable force ratios in tank-versus-tank engagements.

(continued from previous page) 19II/128, p. 119, for Soviet losses at Bialystock-Minsk. See, Panzer A.O.K.2, Kriegstagebuch Nr. 1, 22.6.41 - 31.12.42, Anlagenband Nr. 40, p. 2, for the losses of the 17th and 18th Panzer Divisions, and, by extrapolation, the losses to the other Panzer divisions in Panzer Group 2. The figures are thus approximations. The figures for artillery cannon losses are rough approximations based on the 1941 tactical situation.

2. Soviet cannons include 76mm guns and 122mm and 152mm howitzers and larger cannons.

3. German cannons include 105mm and 150mm howitzers, 100mm guns and larger cannons. Notes that antitank and anti-aircraft guns are not included in the figure.

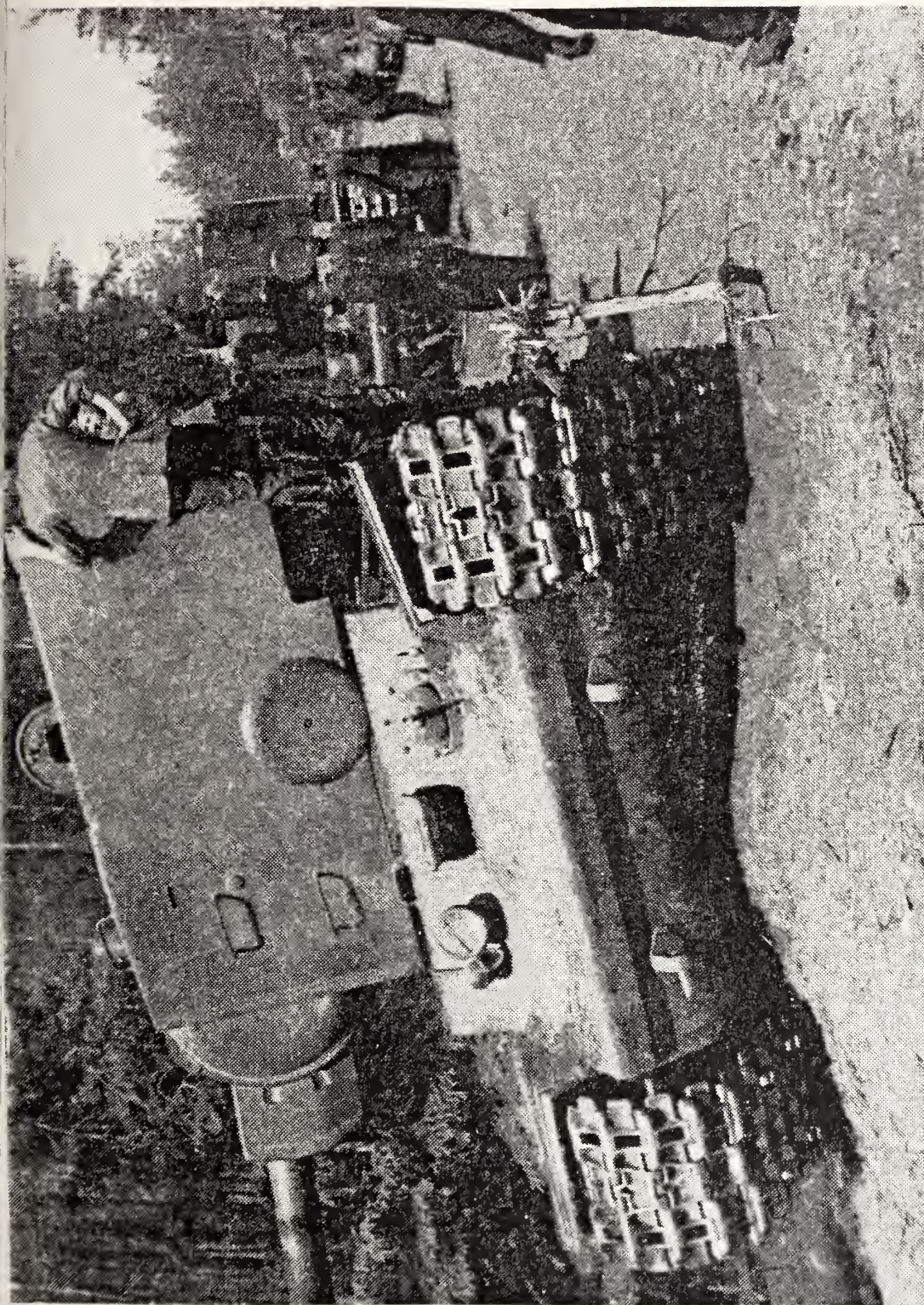


Illustration 35. SOVIET DEFENSIVE TRAUMA: A rare photograph showing two Soviet KV II tanks together in a single picture. These tanks weighed more than 52 tons and carried a 152mm howitzer for direct fire in support of Soviet motorized infantry. The tanks were produced in the Kirov factory in Leingrad and are shown above in Lithuania where they were captured during the Rossenie battle, 24, 25 June 1941.



Illustration 36. SOVIET DEFENSIVE TRAUMA: Shown here, the rear of the turret of a Soviet KV-II heavy tank impacted at least five times by what appears to be German 50mm armor piercing rounds which failed to perforate. It is possible that a sixth round perforated as shown in the direct line of sight of the German observer. This Soviet tank and the T-34 came as a technological surprise to the Germans who had difficulty mastering them in combat in 1941.

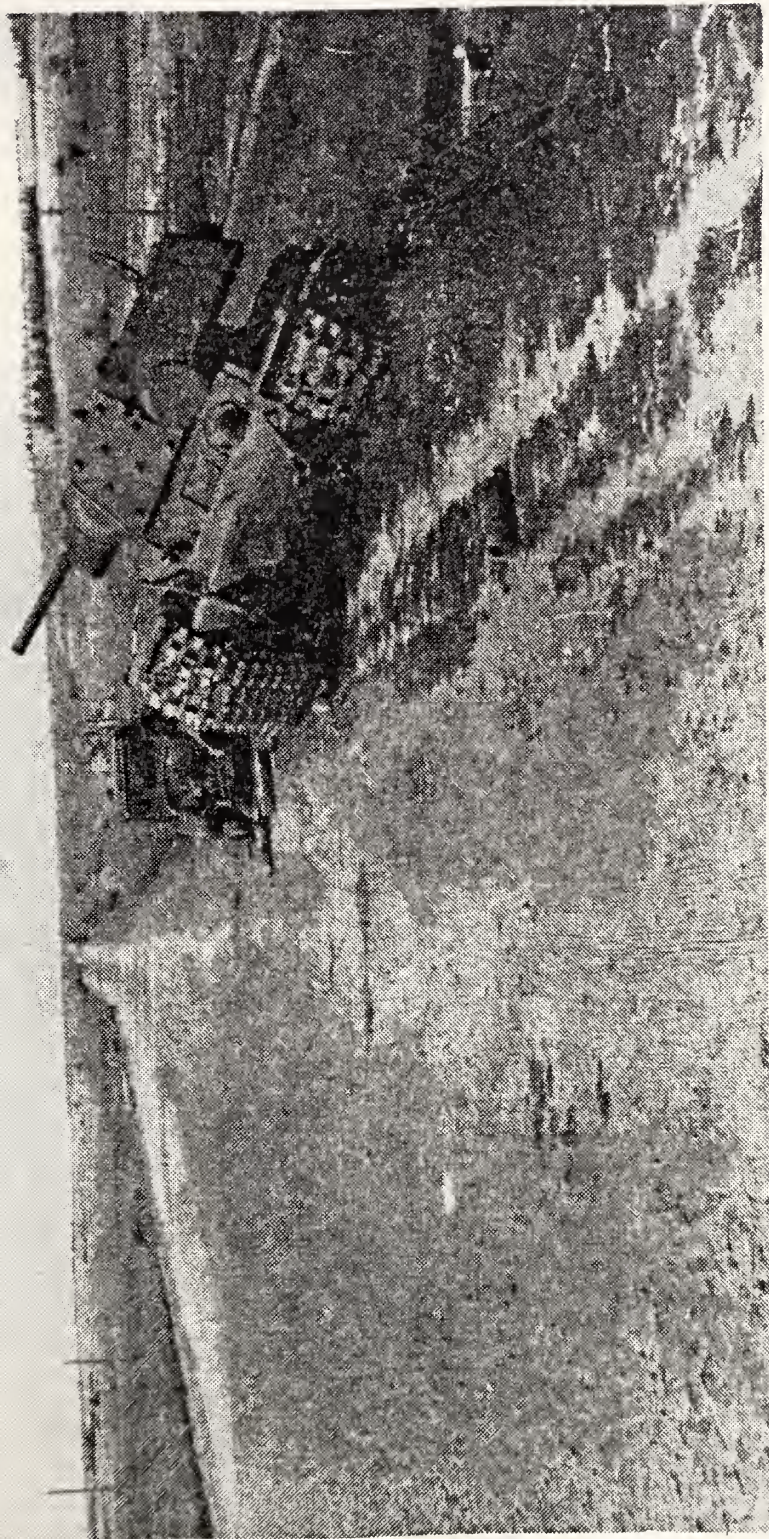
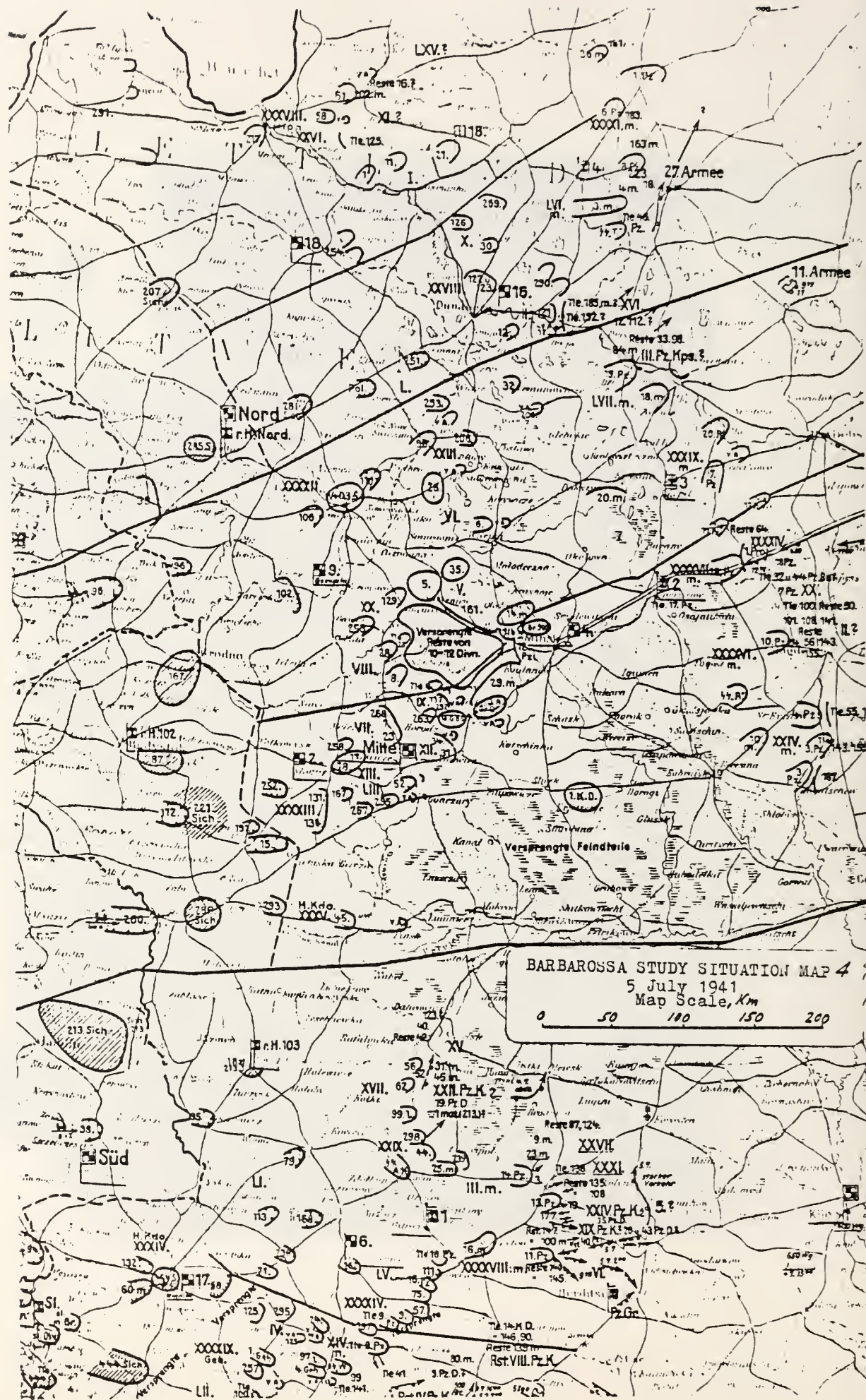
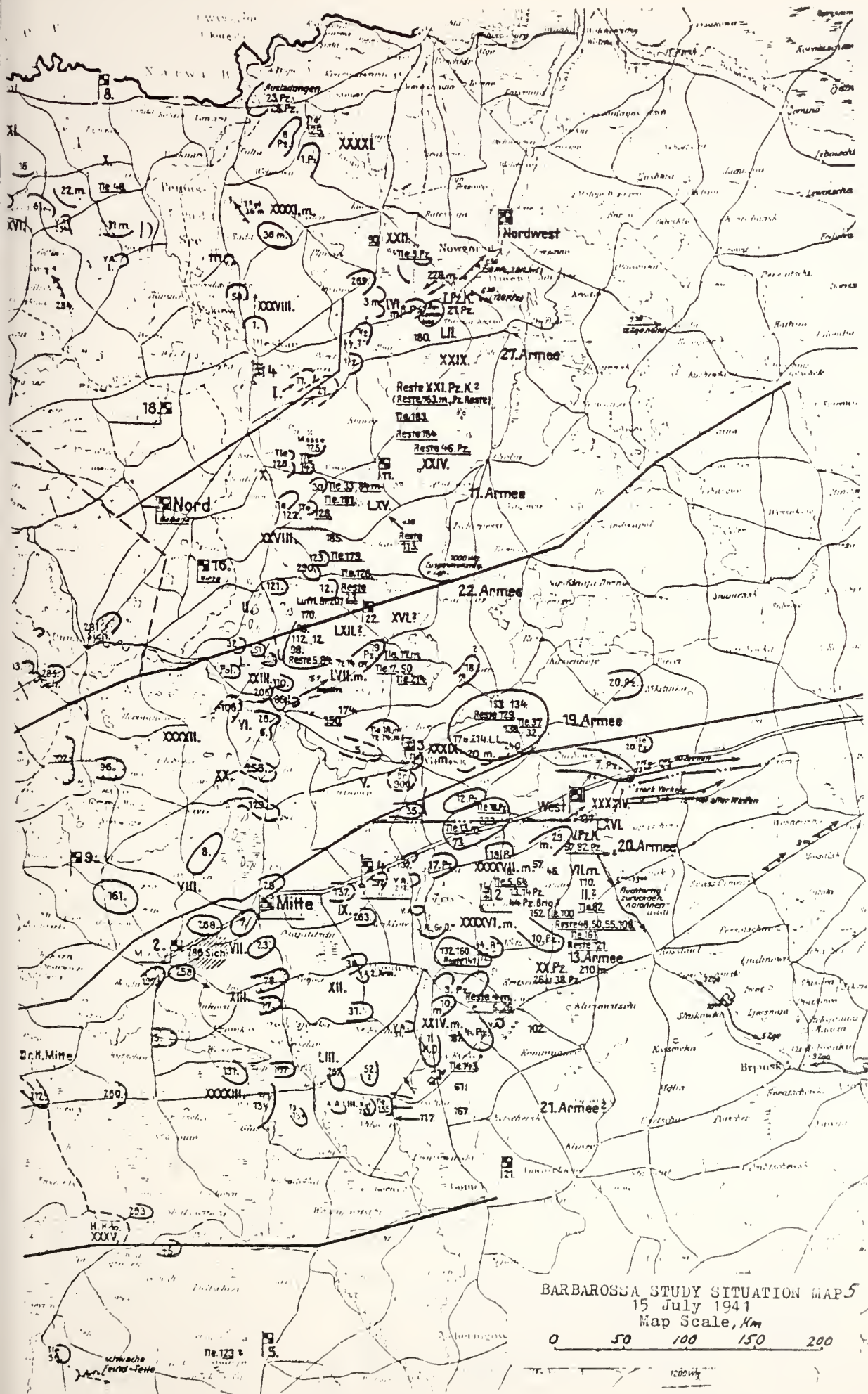
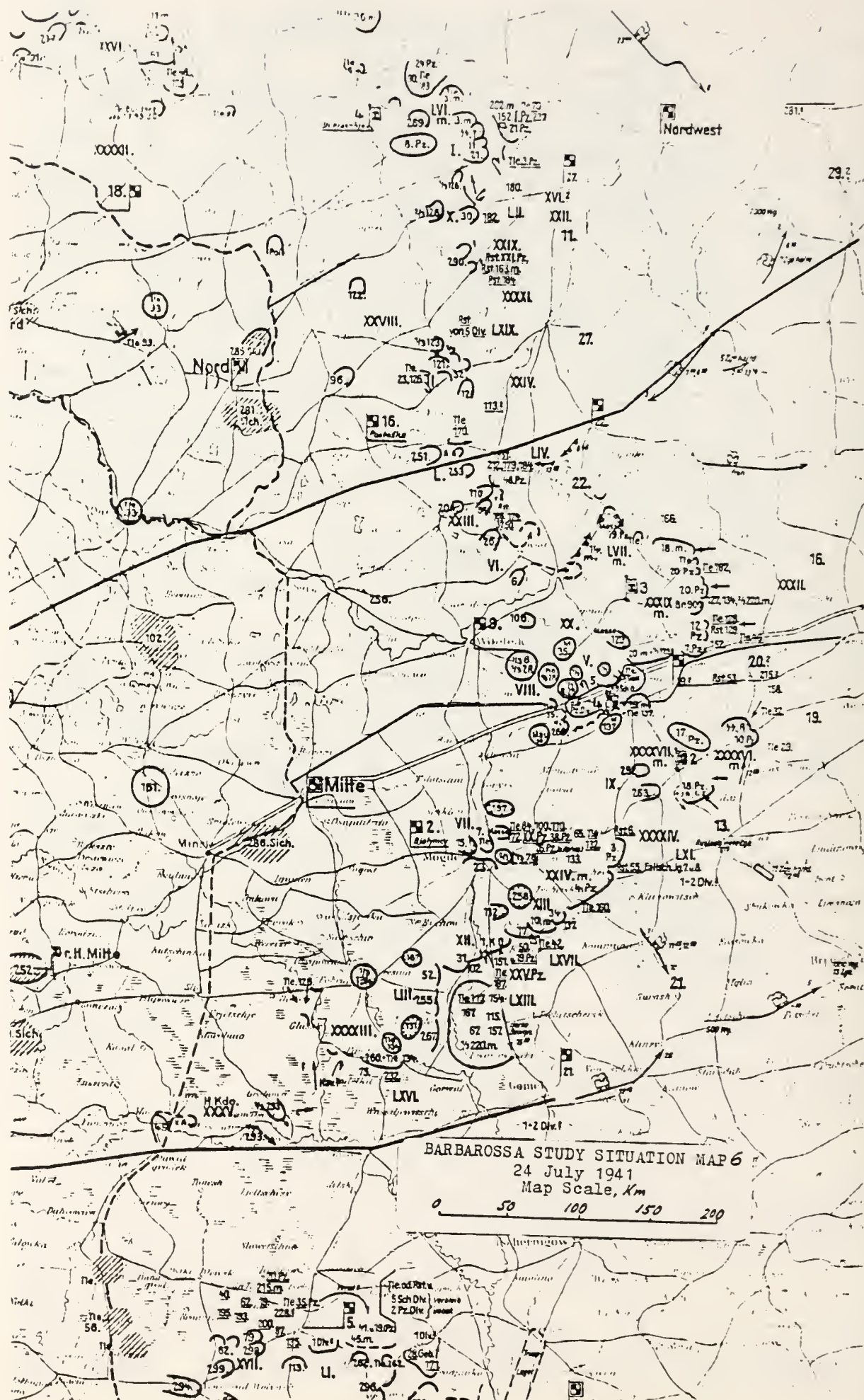


Illustration 37. SOVIET DEFENSIVE TRAUMA: Shown above, a damaged Soviet KV-I heavy tank. This tank had extremely heavy armor protection, e.g., a minimum of 75mm on all side, front, and rear surfaces. The Germans mastered such vehicles only through flexible tactics and the formation of special battle groups with 88mm antiaircraft guns used in the ground firing role.







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In the actual battles which developed, the Soviets had so many tanks that the German horse-drawn and foot-marching infantry divisions experienced scores of tank attacks. The German infantry divisions survived based on a complex but favorable balance among the number and qualities of the German antitank guns, the armor protection of the Soviet tanks, the defects in the Soviet turret design, and the unskilled coordination of the Soviet tanks among themselves and with potential supporting arms. Each German infantry division had 72 organic 37mm motor-vehicle-drawn antitank guns, which proved capable of mastering the armor of the Soviet T-26 infantry-support tank and BT-7 cavalry tank while surviving the fire of the unusually heavy main armament of those tanks and Soviet artillery. The Soviet T-26B and BT-7 tanks had exceptionally powerful 45mm cannons for tanks in their large but relatively light weight class of about 10-15 tons, but the two-man turrets severely restricted the rates of fire and interfered with target acquisition. The bulk of the German tanks (approximately 80%) in Army Group Center were 50mm cannon Panzer III G tanks and 75mm short cannon Panzer IV E vehicles and both vehicles weighed about 20 tons. The German tanks were clearly superior to the Soviet in C³ apparatuses, three-man turrets with more effective target acquisition performance and more advanced fire control apparatuses, and cannons which dominated the relatively thin armor of the Soviet T-26B and BT-7 tanks. The technological superiority of the bulk of the German tanks over the bulk of the Soviet tanks is a strong reason for the effective performance of the Panzer division of Army Group Center in the opening stages of Barbarossa. It should be noted,

however, that the Soviet 45mm, M-1935, tank cannon with its relatively large, kinetic energy, armor piercing ammunition and moderately high muzzle velocity of 760-820m/s, was able to perforate the armor of every German tank on the Eastern Front at realistic ranges of engagement.¹

The Soviets lost approximately 6,837 tanks destroyed or captured from 22 June - 8 July 1941, and the factors discussed above -- especially the effectiveness of the 37mm antitank guns against the most numerous Soviet tanks and the superiority of the German tanks against the same vehicles -- explain the reasons for the German success. The Germans lost through irreparable damage from Soviet gunfire, Russian terrain hazards and evacuation back to major rebuilding facilities, the comparatively moderate number of approximately 415 tanks. The Germans in Army Group Center with those moderate losses had achieved an extremely effective exchange ratio of 16 Soviet tanks permanently lost to one German tank.

Such extreme exchange ratios would not seem to be attainable by an attacker in a Barbarossa II type offensive in Central Europe. The strategical advantages associated with surprise, important as they have been, do not seem weighty enough to result in exchange ratios of 16 defending tanks versus 1 attacking tank. The tactical situation in a Soviet advance into West Germany would show the Soviets with a heavy numerical advantage partly cancelled by known Soviet deficiencies in fire

1. See, for example, F.M. von Senger und Etterlin, Die Kampfpfpanzer von 1916-1966 (Muenchen, 1971), pp. 513, 516.

control in tank versus tank combat, large numbers of NATO antitank weapons, and anticipated Soviet inflexibility in tactical command. One must suspect that the exchange ratios could be reversed with some moderate advantage for the defending NATO forces. On the other hand, the lesson or warning from Barbarossa is that an attacker through concentration of effort can swamp a defender with numbers at the points of main effort and effect deep penetrations through the defending forces and into their rear areas, even though the tank loss exchange ratios favor the defending (potentially NATO) forces. If the attacking Soviet force could carry out encirclements of some NATO forces, the latter would be forced to attack the Soviet formations blocking their ground transportation system and accept the relatively high losses and less effective casualty and damage ratios associated with an attacker.

In the artillery howitzer and gun category of weapons, the Soviets suffered equally catastrophic losses in the great battles of encirclement on the Western frontier. The most numerous artillery weapons with the Soviet field armies were the 76mm, 122mm, and 152mm howitzers organic to the Soviet divisions and brigades. Larger caliber howitzers and guns were held under the control of corps and army headquarters and comprised the remaining artillery assets. In the opening stages of Barbarossa, Army Group Center destroyed or captured the crippling total of 4,929 Soviet artillery cannons. The extreme losses denuded the Soviet Western Front of artillery support for defense against the anticipated German advance toward Moscow after the short rest, rehabilitation, and resupply which the Germans planned for

after the seizure of the Smolensk land bridge. The Soviet losses in artillery cannons taken together with the destruction of the Red Air Force, by 27 July 1941, reveal the Soviet ground forces defending to the east of Smolensk largely with rifles, machine guns, and mortars. German artillery was largely intact during the same period of time and dominated the battlefield through its large numbers, flexible employment, advantages in aerial observation, and the extensive use of the Luftwaffe to attack Soviet artillery positions. German combat losses in artillery cannons during the first few weeks of the campaign (22 June-27 July 1941) are more difficult to discover but can be estimated to be much lower because of the general success of the German advance, the primitive nature of Soviet indirect fire techniques, and German air supremacy. A figure of approximately 205 German artillery cannons lost to Soviet fire during this period of time can be estimated only roughly on the basis of the tactical situations.

The ratio of combat losses between the defending Soviets and the attacking Germans was extremely unfavorable for the defender. Given the relatively more similar qualities of the opposing forces in a potential Soviet attack in Central Europe, one can expect less of an advantage for the potential Soviet attacker. Yet, the opening stages of the Russo-German Campaign in 1941, seem to contain the lesson and warning at the attacking Soviets with (1) possible air superiority, and (2) probable large gains on the ground and associated heavy losses inflicted against NATO in artillery weapons captured due to mechanical breakdown and light mobility damage, would achieve effective loss ratios from

the viewpoint of a numerically superior attacker.



CHAPTER FRONTISPIECE:

"I instructed my air force and flak generals to consider the wishes of the Army as my orders," said Field Marshal Albert Kesselring (left), Air Fleet One Commander, shown here conferring with Panzer Group III Commander General Hermann Hoth.

Chapter 5

The Luftwaffe Attacks

At 0340 Hours on 22 June 1941 the combined air assets of four Luftwaffe Air Fleets struck a formidable blow at the Red Air Force -- a blow from which, in some respects, the Red Air Force has not recovered to this day. The Luftwaffe used 1280¹ operationally ready combat aircraft for the initial waves of air strikes in the war against the Soviet Union. With these air assets the Luftwaffe destroyed more than 2000² Soviet aircraft on the first day of the campaign in approximately 18 hours of combat, as compared with a loss of 35 German machines.³ In terms of numbers of enemy aircraft destroyed versus numbers of friendly aircraft lost, the initial Luftwaffe attack against Russia is the most successful air force operation in the history of airpower. Of the 35 German aircraft lost approximately 15 suffered damage not directly related with combat. The problem was malfunctioning of the SD-2 fragmentation bomblettes which occasionally detonated while still in aircraft bomb bays or upon landing (see page 224). If one takes only the losses of German aircraft to Soviet defenses the exchange ratio of German aircraft lost to Russian aircraft lost was approximately 1 : 100 on the

1. Bundesarchiv - Militaerarchiv, Freiburg, Federal Republic of Germany, "Der Luftwaffenaufmarsch 1941 gegen Russland", from Gen. Qu. 6 Abteilung.

2. Cajus Bekker, The Luftwaffe War Diaries, p. 317, (also see note accompanying chart 5).

3. Bundessarchiv, "Auszug aus den Lageberichten" ODb.L. (Ic).

first day of the campaign. .

The first Luftwaffe strikes were conducted at 0315 in concert with the German Army's ground attack. Twenty to thirty air crews had been previously handpicked to deliver special fragmentation bombs (SD-2 2kg bomblettes and SD-10, 10kg bomblettes) against key Soviet airfields, a flight of three aircraft being assigned to each field. The purpose of these early attacks was to cause disruption and confusion as well as delay in the take off of Soviet planes until the main blow was struck approximately 25 minutes later.¹

There was considerable controversy between the Army and the Luftwaffe over the timing of the first air attacks. The Army was firm in its position; it wanted to attack at first light to achieve the maximum amount of tactical surprise and avoid the problems of control in a night attack. The Luftwaffe, on the other hand, was tasked with destroying the Red air forces so that the Army could operate without fear of Russian air attacks and the Luftwaffe could provide air support for the attacking German ground forces. If the Army attacked first then the Soviet Air Force units would probably be alerted and retire to airfields beyond the reach of the Luftwaffe.² The resultant compromise was the decision to select a few special crews³ for

1. Bekker, Luftwaffe War Diaries, p. 311.

2. Ibid., p. 312.

3. Selected for abilities at blind flying and navigation as they would have to proceed to their targets at high altitude and before first light to avoid detection by the Russians. See Bekker, Luftwaffe War Diaries.

missions with times on target of 0315 --the same time as the beginning of the Army Attack in the area of Army Group Center.

The first mission of the Luftwaffe for the opening stage of Barbarossa was straightforward and specific: destroy the Red Air Force and its ground organization.¹ After the completion of this task the Luftwaffe was to concentrate on support of the advancing German ground forces.² These two missions could probably best be defined respectively as the first and the main missions of the Luftwaffe.³ The Luftwaffe had to fulfill the first mission (elimination of the Red Air Force) prior to concentrating on the main mission--support of the German Army.

After attaining air superiority, the specific missions planned for each of the four Air Fleets supporting Barbarossa were:⁴

Air Fleet 4 - Supporting Army Group South

- . IV Air Corps

- Prevent the rearward movement of the enemy
 - Minethe harbors of: Nikolajew, Odessa, Sebastopol

- . V Air Corps

- Prevent re-enforcement of enemy
 - Support forwardmost Panzer groups

Air Fleet 2 - Supporting Army Group Center (main concentration of the Panzer thrust)

1. Interview, Brigadier General Rudolf Loytved-Hardegg, Luftwaffe Retired, Nuernberg, Federal Republic of Germany, 18 Jan. 1980.

2. Major General Herbert J. Rieckhoff, "Geheimnisse um die Luftwaffe der Sowjetunion," Flug Wehr und Technik, Nr.8, Aug. 1948, p.182.

3. Bundesarchiv (Lw 118/4 4a) "Der Feldzug gegen Sowjetrussland", Major General (signature illegible) Retired, March 1953.

4. Bundesarchiv, "Auszugsweise Abschrift aus dem KTB der Seekreisleitung", (1. Abt., Teil A: Heft 22 von 1-30 Juni 1941).

- . II Air Corps
Support the right flank of the Army in the direction of Smolensk
- . VIII Air Corps
Air Fleet 1 - Supporting Army Group North (destruction of enemy forces in the Baltic provinces)
Support of the Army for the breakthrough to the Duna River.
- Air Fleet 5 - Supporting the advance of the Army in the North Norwegian area--(minimal forces).
- . Mining of Polarnoje
Air Commander East Sea
 - . Cooperation with Navy Group North
 - . Armed Recce against enemy fleet movements
 - . Mining of Kronstadt, Leningrad, the Newa River between Schuesselberg and Leningrad
 - . Attack locks of the White Sea canal at Powenietz

Regarding the first mission of the Luftwaffe in Barbarossa, which was the destruction of the Red Air Force and its ground organization, the following priorities were planned:¹

1. Destruction of modern aircraft and associated Red Air Force ground organization
2. Destruction of production facilities for aircraft and aircraft engines
3. Destruction of aircraft with "M" (modern) engines
4. Destruction of other aircraft
5. Destruction of the Red Air Force ground organization

The bombing of the Russian aircraft industry was not possible at the start of Barbarossa because the Luftwaffe had no bombers with sufficient range and payload to reach the Russian factories.² For the balance of the targets the overall objective was support of the Army. Even the highly successful attacks of the first few days against the Red Air Force were not an end in themselves. The Red Air Force was to be eliminated so that the

1. This is a translation of the original German document which did not specify the tasks of VIII Air Corps. Other accounts are more specific, for example see: "General Kommand VIII Flieger korps", Oberst v. Heinemann.

2. Ibid., also see Paul-Werner Hozzel Recollections and Experiences of a Stukapilot, 1931-45, (Battelle, Columbus, 1978).

German Army could move without fear of Russian air interference and so that the Luftwaffe could concentrate on supporting German Army operations. Why did the German military leadership opt for such a utilization of the Luftwaffe, especially when the theories of strategic bombing of the then popular Italian air power advocate General Giulio Douhet,¹ were still in vogue?

To start with, one must appreciate the strategical-geographical circumstances of Germany. Germany was even in 1941 a relatively small country. Except for coal, Germany was resource poor with no natural defensive borders. The three factors: size, no natural borders, and uneven resources dictated the traditional Prussian-German military strategy. Wars had to be short as there were not enough natural resources to support wars of attrition. The armed forces had to concentrate on quality and efficiency because the population base contained limited expendable human resources. Finally, because German space was at a premium, German military strategy had to concentrate on destroying the enemy forces, rather than trading space for time. These factors drove the Germans to embrace the theory of the Entscheidungsschlacht, or battle of decision, The classic strategy which would quickly seek a decisive battle with the enemy. Under such circumstances, the concept of Auftragstaktik, or mission tactic, was a natural guiding principle of German

1. In his book Airpower, published in 1921, Douhet (1869-1930) advocated subjugating a foe mainly by attack from the air.

military operations at all levels of command.¹ Essentially Auftragstaktik meant allowing decisions to be made at the lowest possible level in the chain of command. Germany, furthermore, had to make optimum use of its leaders because Germany could usually count on being outnumbered by its opponents. In Auftragstaktik, then, the higher echelon assigned the objective, to the lower echelon and the lower echelon determined how the objective was to be taken. Orders were short, simple, and easily understood. A commander at all levels, from squad leader to field marshal, was a real commander, not merely a telephone exchange passing on higher directives to subordinate units.

The Luftwaffe's military style was thus similar to that of the German Army. Auftragstaktik was a principle used as much in the Luftwaffe as it was in the German Army. The Schwerpunkt concept also manifested itself, for example, even in the strong emphasis that the German air force placed on dive bombing as opposed to level carpet, or area, bombing. The Luftwaffe was flexible, aggressive, and tactically oriented. The failure of the German strategic bombing campaign against Great Britain and the associated lessons were clear to the German military leadership which emphasized tactical support of the Army during

1. Germany's historical position was seen by many as that of the bulwark of Western Europe, behind which Western culture was able to flourish and expand. Germany was Europe's forward defense against alien invasion. This role was dutifully fulfilled, in turn by the Teutonic knights, Electors of Brandenburg-Prussia, Kings of Prussia, and German Emperors. This tradition was also very much alive in the Third Reich and it is no wonder, then, that Germany's "Best and Brightest" flocked to the officer corps. In a country with easily accessible borders, small size, and limited resources, national survival depended on having an efficient and effective armed force.

Barbarossa.

German air operations in Barbarossa provide an excellent example of the Luftwaffe's military style. Lower echelons -- the squadron level and even flight level -- decided the tactics, weapons, and size of formations to use in destroying the targets designated by higher echelons. Interference from higher headquarters, in general, was kept to a minimum, and aircrew opinions were highly regarded. When aircrews reported a severe safety problem with the SD-10 fragmentation bombs, for example, Field Marshal Albert Kesselring, Commanding Air Fleet Two, instantly banned their use except on external bomb racks.¹ The Germans placed great emphasis on minimizing aircraft losses and battle damage and safeguarding the lives of aircrews. Erich Hartmann, Germany's and the world's top scoring fighter ace with 352 aerial victories, said in a letter to Reichmarschall Hermann Goering:²

"Today from this airfield on your orders fighter units took off in vile weather in an effort to find and shoot down American bombers. The weather was so bad that I would have been unwilling to take off myself. The fighters you sent into the air never found the bombers and ten very young pilots and planes were lost without firing a shot at the enemy."

"Some of the young pilots I talked to in this squadron who are now dead had less than 80 hours flying time.... to send youngsters up to die in bad weather is nothing short of a criminal act."

Although written when he was a junior captain, Hartmann's words are very much in the classic German tradition which emphasized minimizing losses.

1. Kenneth Macksey, Kesselring, the Making of the Luftwaffe, (N.Y., 1978), p.90.

2. R. F. Toliver and T. J. Constable, The Blond Knight of Germany, (N.Y., 1970), p.8.

The Luftwaffe was told to plan for a short war, and in Barbarossa, as originally planned, strategic targets for aircraft were essentially irrelevant. The general concept of the operation was the destruction of the mass of the Red Army in the Western part of the USSR. Strategic Targets -- factories, power plants, population centers -- had no bearing on the outcome of a Blitz, or lightning campaign of short duration. The Luftwaffe in Barbarossa was totally committed to tactical support of the German Army. In the words of Field Marshal Kesselring:¹

"I instructed my air force and flak generals to consider the wishes of the Army as my orders"

The Luftwaffe's collection of intelligence data on the Red Air Force in preparation for Barbarossa was a well organized, albeit straightforward operation. The sources of information which the Germans used included the following: the Russian press, agents of various nationalities, Russian emigrants, ethnic German emigrants, the German attache service, air reconnaissance, and radio intercepts. All of these inputs were analyzed by Luftwaffe Major Rudolf Loytved-Hardegg. Hardegg was at that time a general staff officer and chief of intelligence for Air Fleet One. A recently experienced reconnaissance group commander in the West, Hardegg was specifically selected by his superiors to collect data for the entire Eastern Front and set up the target folders for the Luftwaffe missions opposite Army Groups Center and North for the opening stages of Barbarossa.

1. Macksey, Kesselring, p. 83.

He was an excellent choice. He was a peacetime-trained general staff officer, a pilot, a combat group commander, and intimately familiar with air reconnaissance.

Loytved-Hardegg¹ was officially assigned to Air Fleet One as chief of intelligence in March 1941, and was charged with determining the order of battle of the Red Air Force and later the targeting of its aircraft and ground installations. He set up a small, secure headquarters in Berlin and started to work. The units which came under his control for intelligence gathering consisted of two radio intercept sites, a long range reconnaissance squadron (Lufthansa)² and a long range reconnaissance squadron (regular Luftwaffe), and finally, access to Reichsfuehrer Heinrich Himmler's security service organization for screening emigres from the Soviet Union (see Chart 1).

The Luftwaffe High Command directed Hardegg to investigate and answer the questions:

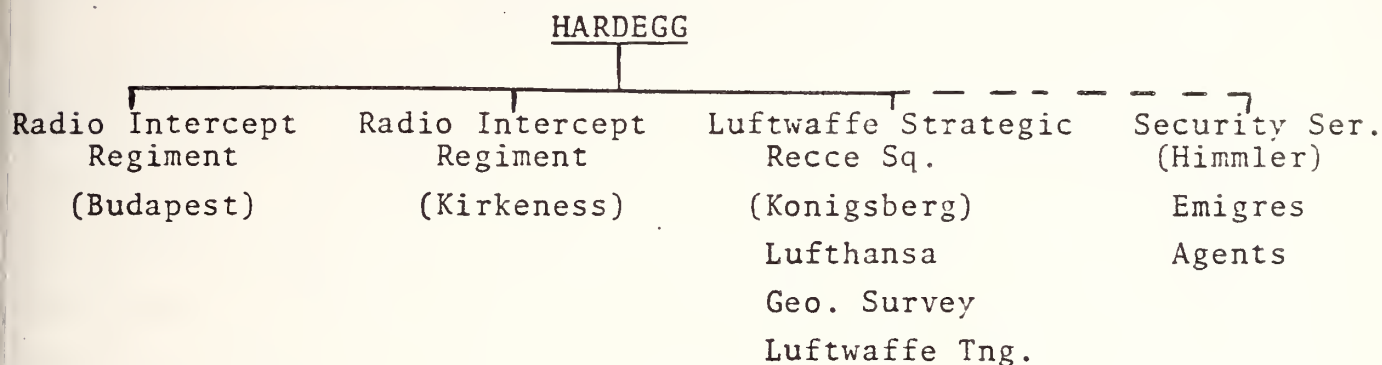
1. Is it true that 9000 Soviet aircraft are still in the Western part of the USSR? (figure from Foreign Armies East)
2. Are these 9000 aircraft supplemented with modern aircraft?
3. Where are the industrial plants which are producing modern aircraft and modern engines?

Intelligence data gathering for the Luftwaffe attacks during the first critical days of Barbarossa was handled by a major with

1. Interview, Hardegg. (all of this information is based on the Hardegg interview, unless otherwise stated).

2. Photo intelligence was gathered from Lufthansa civil aircraft which made scheduled flights over the Soviet Union.

Major Loytved-Hardegg Intelligence
Gathering Network
Luftwaffe - Barbarossa



Major Loytved-Hardegg Barbarossa Target Planning
and Disseminating Organization



Personnel:

- 1 Commander
- 3 Staff Officers
- NCO's/EM's

Chart 1.

a staff of three officers. The same staff also designated all Luftwaffe targets opposite German Army Groups North and Center. The success of the Luftwaffe strikes makes a convincing argument for small but well trained planning staffs.

Two incidents which occurred during the Luftwaffe intelligence gathering phase of Barbarossa are particularly significant. The first involved a Luftwaffe long range reconnaissance mission in a newly developed special reconnaissance aircraft. The aircraft was capable of reaching an altitude of 34,000 feet, but on one of its missions deep into Russian territory, the Luftwaffe aircraft was forced down by a Russian fighter interceptor. This disturbed Major Hardegg, because the general impression in early 1941 had been that the Russians had no modern aircraft capable of intercepting German aircraft above 30,000 feet.

Another incident involved a recently emigrated engineer of German ancestry who had been allowed to leave the Soviet Union under the terms of the recently negotiated Russo-German Non-Aggression Pact (1939). The engineer was screened by Himmler's security organization and because of his former employment in an aircraft factory was then interviewed by Hardegg. The emigre was quickly identified as an expert in alloy technology. He had worked specifically in a Russian aircraft engine factory and had produced such excellent results that the Russians had paid him in gold. Hardegg was astounded that a man of such talent had been released by the Russians and that Russia had such highly skilled engineers working in the aircraft industry. The two incidents led Hardegg to be more concerned about the technical

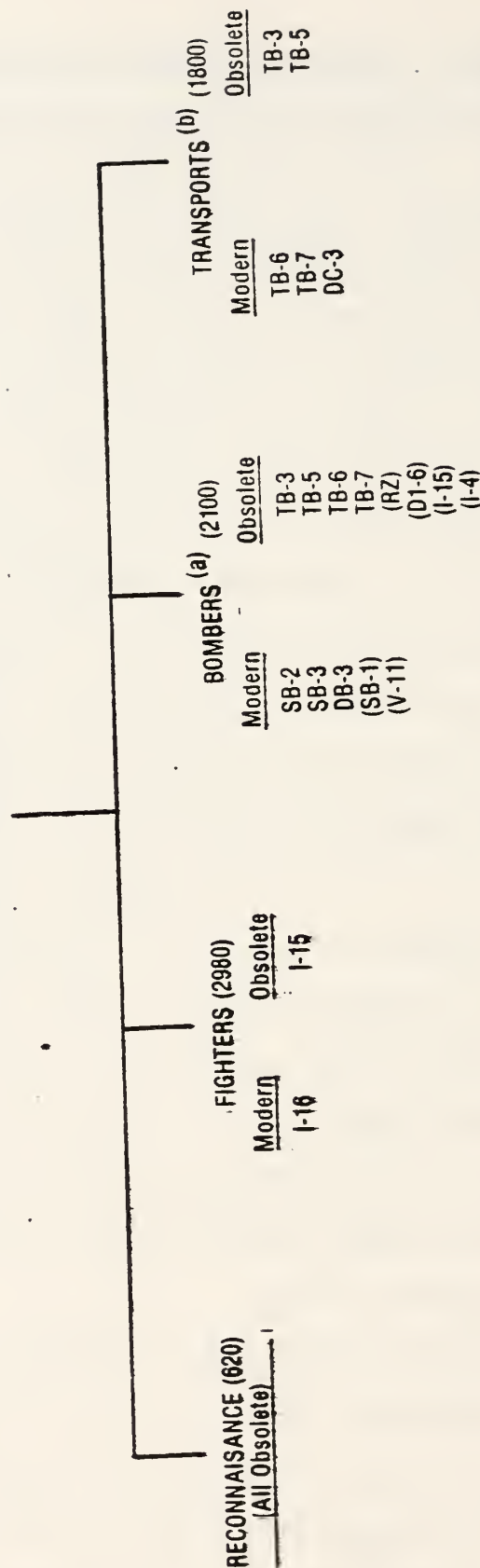
capability of the Russians. Hardegg was of the opinion that the Russians were not as backward and unsophisticated in certain technical fields vital to war production as many people in Germany and the West had been led to believe at that time.

Hardegg estimated the number of aircraft in the Red Air Force as approximately 15,000 of which 350 were considered by the Germans to be modern aircraft. The Hardegg organization also determined that there were about 2000 airfields in the western USSR. This information, when presented to Reichmarschall Hermann Goering, was not well received. According to Hardegg, Goering did not pass this information on to the Armed Forces High Command--it was not conceivable to Goering that a "primitive" people such as the Russians could have this many aircraft. In this regard, Loytved-Hardegg had a private conversation with Lt. Col. "Beppo" Schmidt who was on the Luftwaffe High Command Operations Staff. Schmidt was aware of a truer picture of Russian strength and also apprehensive about it. He asked Hardegg to keep his reservations about the large number of Soviet aircraft to himself because he felt the only hope for the campaign was the self confidence of the German troops and the chance that the Soviets would collapse from internal stresses with the start of the German attack.

Hardegg's reservations never had a chance of altering the decision of Hitler to attack the Soviet Union. Although he was personally apprehensive about the chances of success, Hardegg worked thoroughly, and, as subsequent events proved, effectively, in selecting targets for the Luftwaffe. The targeting priorities

LUFTWAFFE HIGH COMMAND'S ESTIMATE of RUSSIAN AIR FORCE STRENGTH - (SPRING 1941)

Total Military Aircraft
In European Russia (7,500)



(a) INCLUDES CLOSE AIR SUPPORT BOMBERS
IN (PAREN)

(b) INCLUDES LIAISON AIRCRAFT

*There was a considerable difference of opinion relative to the total number of aircraft possessed by the Soviet's on the eve of "Barbarossa". The figures listed here are the official Luftwaffe figures. The Handbuch der neuzeitlichen Wehrwissenschaften quoted a figure of 6000 front line aircraft in March 1938. German radio intercept service lists 13-14,000 on the eve of "Barbarossa". In an interview on 18 Jan '80 retired Luftwaffe General Loytved-Hardegg — who was responsible for collection and analysis of all intelligence data on the Soviet Air Force for the planning of Barbarossa — the General said he personally reported a figure of 15,000 to the Air Force Chief of Staff. General Hardegg said after making his very detailed report, which quoted the higher number of aircraft, the Air Force Chief of Staff had the number deleted from the Official Luftwaffe assessment sent forward to the High Command of the

established by Hardegg for the first day of Barbarossa were:

1. New aircraft with associated ground organization.
2. Production facilities for modern aircraft and aircraft engines.
3. Aircraft with modern engines.
4. Other aircraft.
5. Red Air Force ground organization.
6. Support of the Army.

The second of the priorities proved impossible to fulfill as the factories were beyond the range of the German bombers available at that time.

There were approximately 2000 Soviet airfields within a 250 kilometer belt from the Western border of the USSR, which were known to the Germans at the start of Barbarossa.¹ Of these fields, four in the North and seven opposite German Army Group Center had modern aircraft. Each occupied airfield had an average of 30 aircraft, and virtually every such airfield in the 250-kilometer belt was attacked. Major Hardegg's organization prepared sealed target folders for each Luftwaffe group commander who passed the appropriate target information on to the individual squadron commanders. The latter, in turn, passed the data to their aircrews. Security was therefore compartmentalized. Most aircrews had only eight hours² notice before they took off on their missions. It was felt that more effect could be achieved by surprise rather than by detailed planning which would entail security leaks. Extensive aircrew mission planning was also considered less critical since most of the crews were experienced and their training had emphasized flexibility. The Auftragstaktik concept made the Luftwaffe

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1. Interview, Hardegg.
 2. Interview, Hardegg.

flexible and its aircrews self confident and capable of independent decisions, and, thus, the Luftwaffe leadership did not consider the very short notification times as a liability.

At a higher level, the thrust of Luftwaffe operations had already been established in 1939, by the Luftwaffe Chief of Staff, General Hans Jeschonnek. Basically the eternal problem of resources was a prime mover in dictating the Luftwaffe operational style. In the Spring of 1939 Jeschonnek stated:¹

"In the Luftwaffe it is not just a question of technology. In the technical field every state is always trying to get ahead of every other. But we must realize that all states are really on the same technical level and that there is no such thing as a permanent lead. But the development of air tactics is so recent that in the field conclusions can be reached which, translated into action could mean actual superiority over the enemy. The duty of the General Staff is to indicate to the technicians the requirements they must meet, but its most important task is to make the best possible use of what the technicians give them, to extract the maximum out of men and machines at the lowest possible cost."

Even before the start of Barbarossa, the Luftwaffe was falling into the mode of being subordinated to the Army. Considering the necessity for Germany to wage short wars if they were to terminate victoriously for Germany, one can see that the use of the limited Luftwaffe assets as they were employed in Barbarossa was probably optimal. The assets and resources for an effective tactical and strategic air force were simply not available. At the beginning of Barbarossa, the de facto situation, in spite of Goering's desire for a fully independent air force, was that Germany had a highly developed tactical air force which was

1. Werner Baumbach, The Life and Death of the Luftwaffe (N.Y., 1949), p.23.

largely subordinated to the German Army.¹

After the intelligence analysis was completed, targeting for the Luftwaffe was finalized. It is noteworthy that specific targets for missions after the disruptive and first wave Luftwaffe attacks were not assigned.² The Luftwaffe waited for reports of bombing effects from returning aircrews and reconnaissance pilots before assigning subsequent air strikes because some targets would need to be struck again, while others would have been completely destroyed. The final target list for the first wave of Luftwaffe air attack in Barbarossa was as follows:³

- 31 Airfields
- 3 Suspected higher staff quarters
- 2 Barracks
- 2 Artillery positions
- 1 Bunker position
- 1 POL depot
- The port facilities at Sevastopol

The success of the Luftwaffe attacks was to astound the Germans and the Russians.

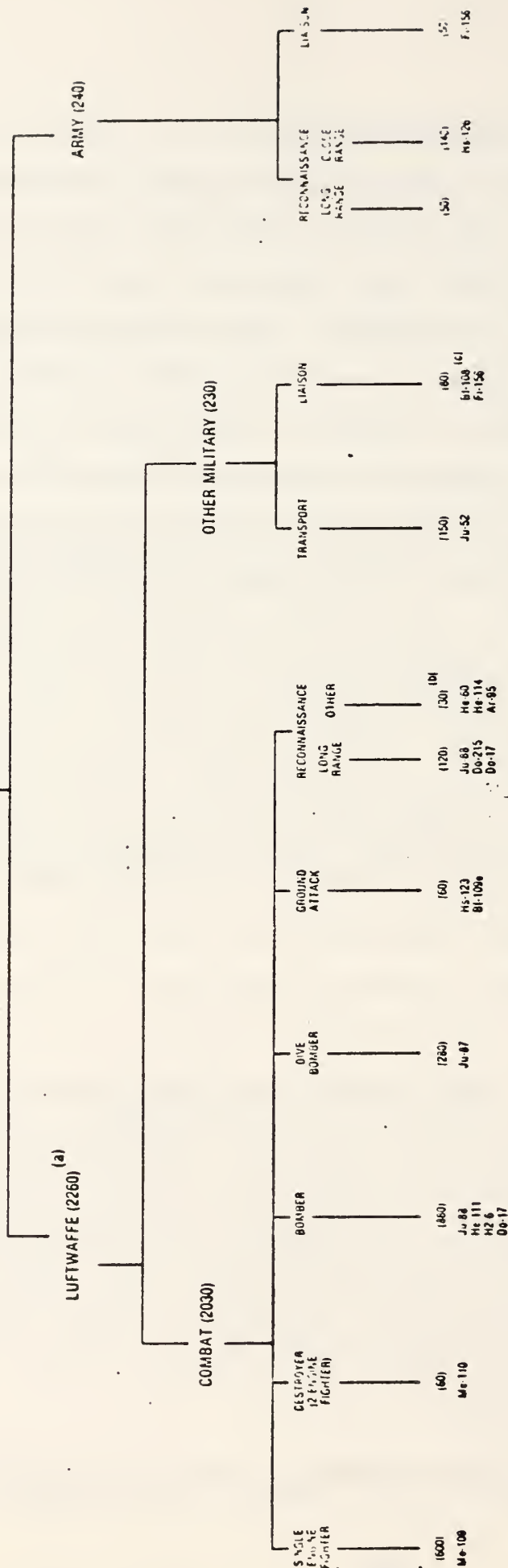
1. Reichmarschall Goering had a tremendous effect on the buildup of the Luftwaffe and was often instrumental in securing priorities (raw materials and personnel) for the Luftwaffe solely as a function of his position within the National Socialist hierarchy. Conversely Goering tended to use his position as head of the Luftwaffe to influence political decisions, or more often to secure the favor of Hitler. Periodically this had disastrous consequences, as evidenced in Goering's boast that the Luftwaffe alone could eliminate the BEF at Dunkirk in 1940. One of the most painful consequences of having a major political figure head the Luftwaffe was the ill-fated attempt to supply by air transport the surrounded German Sixth Army at Stalingrad.

2. Interview, Hardegg.

3. Bundesarchiv, "Auszug aus den Lageberichten OBd.L. Ic", Lage Ost, 22.6.41 - 28.6.41, p. 3, "Angriff der ersten Welle."

GERMAN MILITARY AIRCRAFT - EASTERN FRONT

22 JUNE 1941
[2500]*



(a) LW assigned to LW units
(b) Assuming 3 Squadrons of 10 aircraft each
(c) Probable

*There are numerous sources listing the total number of German aircraft committed to "Barbarossa" on 22 June 1941. General Hermann Plocher in his work *The German Air Forces Versus Russia, 1941*, gives a total figure of 2000 Luftwaffe plus 240 Luftwaffe aircraft serving with army units. Capus Bekker's *The Luftwaffe War Diaries* gives a figure of 1945 Luftwaffe aircraft of which 1400 were operationally ready. The official reports from the High Command of the Luftwaffe's Quartermaster Section lists 1830 aircraft of which 1280 were operationally ready. It appears that the second two sources omit units serving with the army units, i.e. under the operational control of the army unit to which the aircraft were assigned. The figure quoted here of 2500 German military aircraft dedicated to "Barbarossa" on 22 June 1941 can be assumed to be the most reasonable based on the information available. It can be further deduced that the actual number of aircraft participating in offensive air action against the Soviet Union, at the start of "Barbarossa", was somewhere between 1280 and 1400 aircraft. All of the aircraft assigned to army units were either liaison or reconnaissance type. Since the 1280 figure comes from official Luftwaffe sources, 1280 will be the figure used in this study relative to Luftwaffe combat aircraft participating in operations against the Soviet Union on 22 June 1941. For further discussion see the above mentioned sources and Harold Farbers' *Luftwaffe, a History*. John Killen's *A History of the Luftwaffe*, the *Profile* series from Profile Publications devoted to the Luftwaffe. *Aircom Aviation Series 'Luftwaffe Color Schemes and Markings'*, Signal Publications' *Luftwaffe in Action*, the Karlsruhe Document Collection, and finally Alfred Price's *Luftwaffe*.

Chart 3.

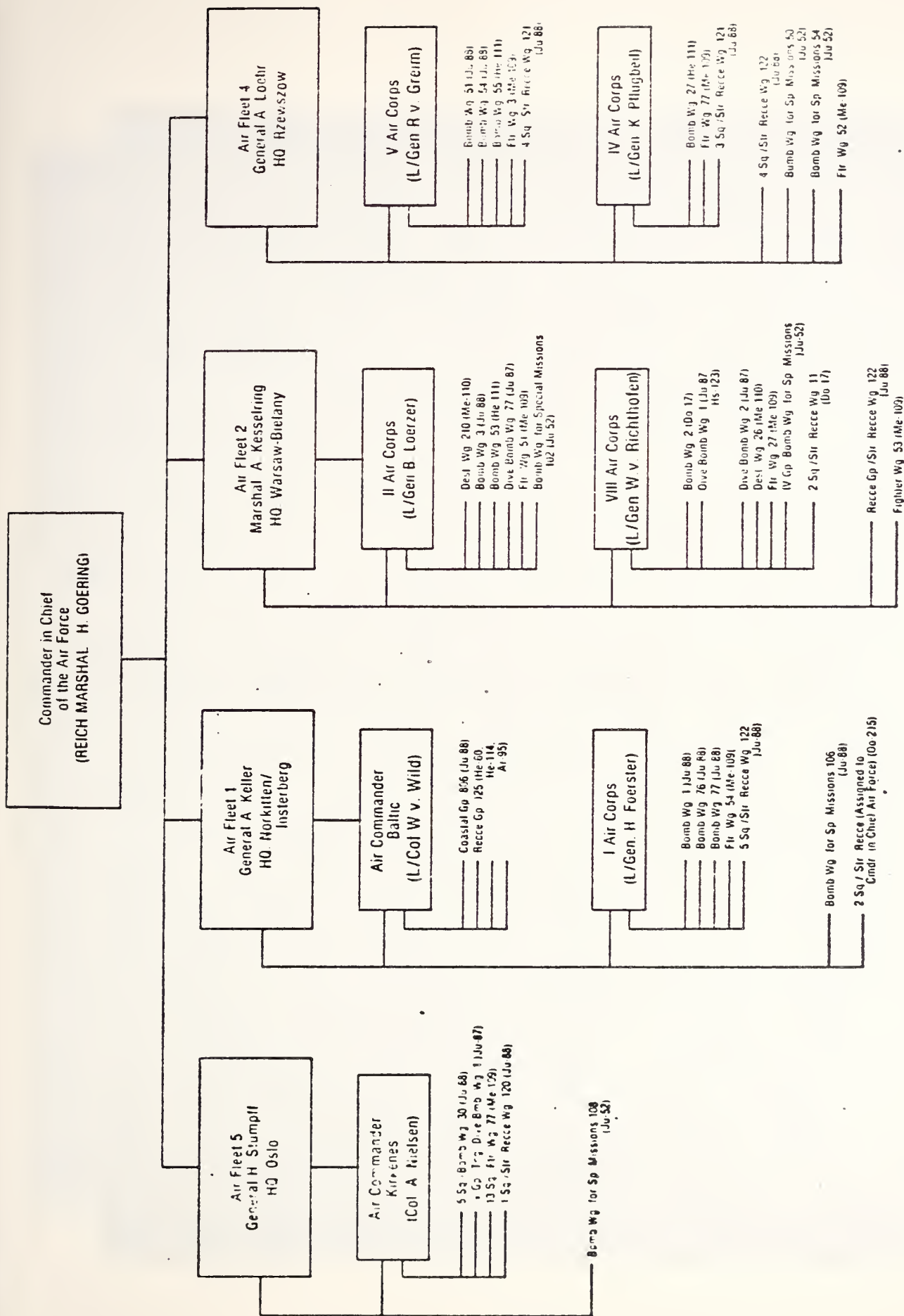


Chart 4.



Illustration 38. Soviet DB-2 bombers destroyed by Luftwaffe low level air attacks during the first phase of Operation Barbarossa.

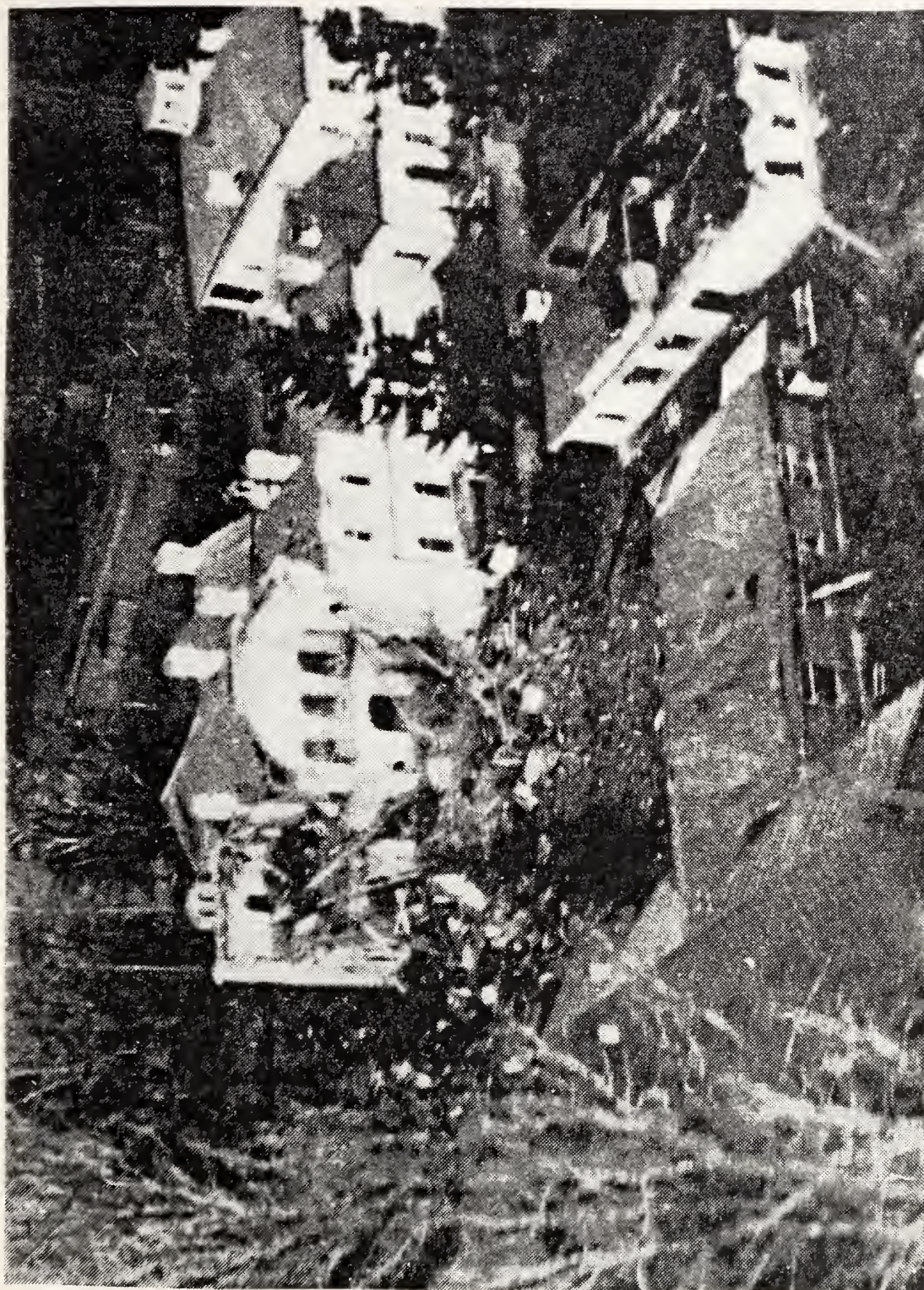


Illustration 39. Marshal Semyon Timoshenko's headquarters attacked by Luftwaffe aircraft, 1941.

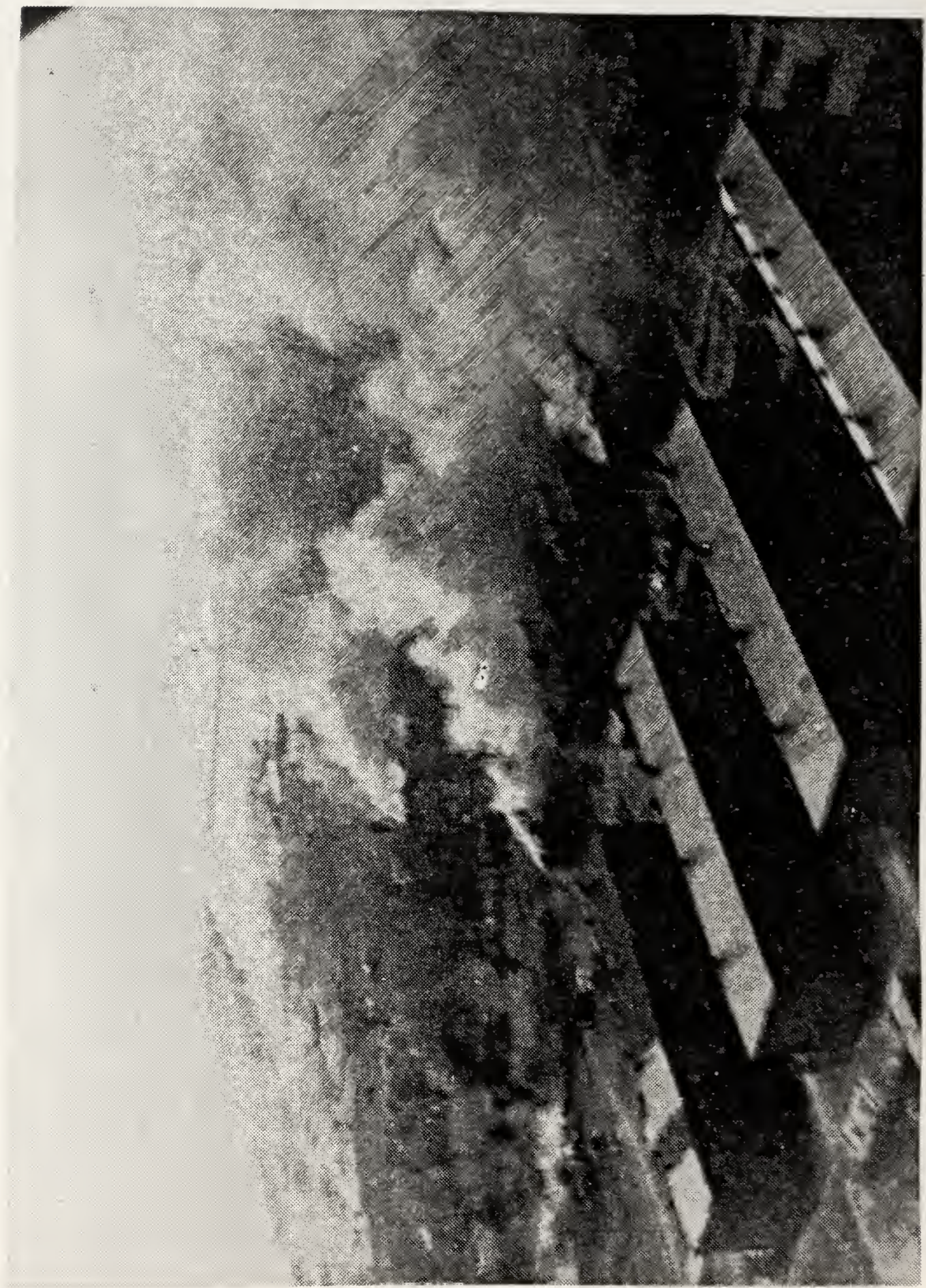


Illustration 40. Russian Barracks destroyed by Luftwaffe air attack, Summer 1941.



Illustration 41. Soviet tanker cars immediately after Luftwaffe air attack, Summer 1941.

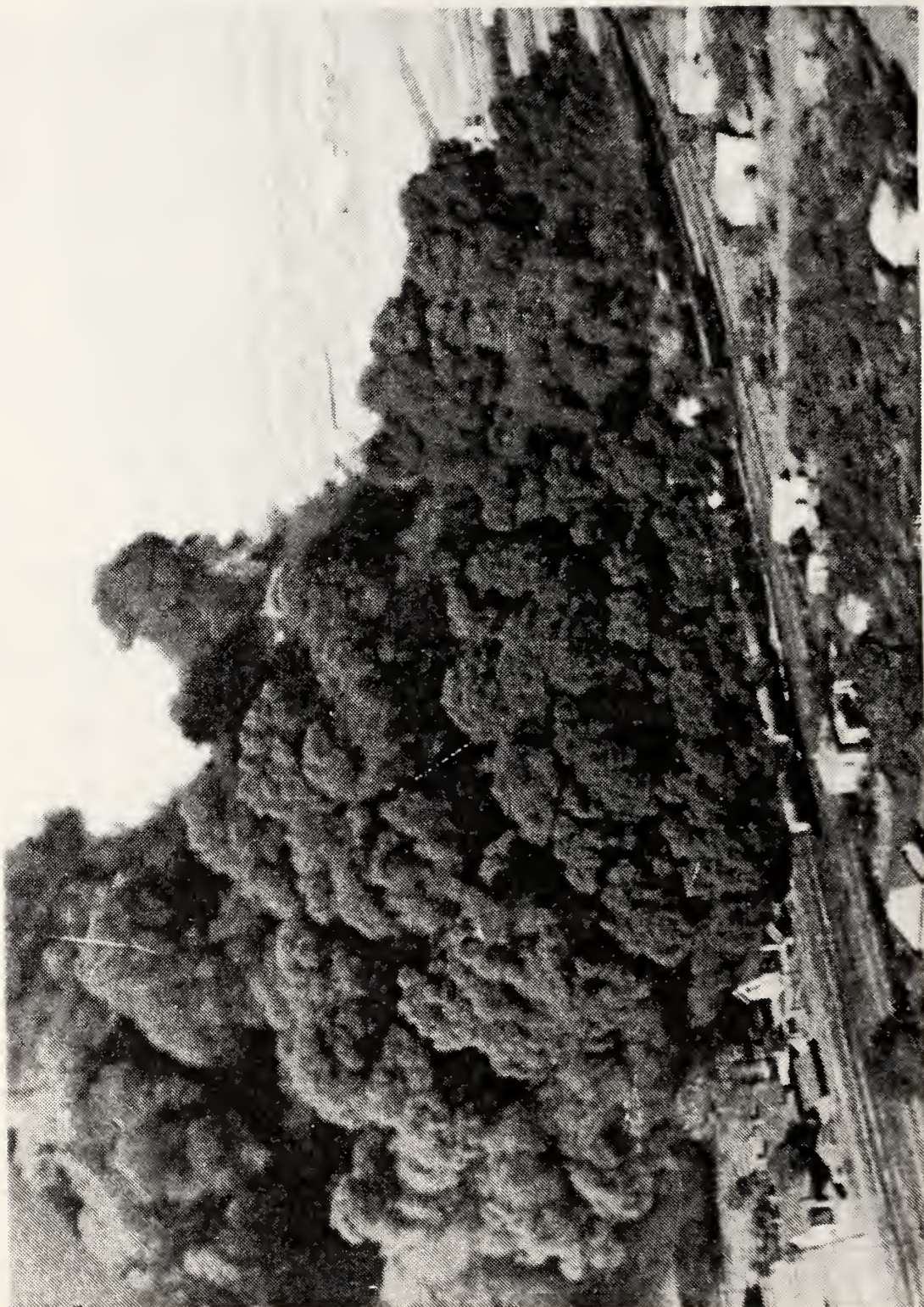


Illustration 42. Soviet tanker cars shortly after Luftwaffe air attack, Summer 1941.
(Same target shown in Illustration 41.)

In the execution of the Luftwaffe attack in the East, a special preliminary wave of approximately one group of bombers hit the Russian airfields opposite Army Group Center on which the modern Soviet fighters were based. The special preliminary Luftwaffe air strike was designed to disrupt the modern Red Air Force fighter units, cause confusion, and preclude their dispersal and employment before the first wave of the attack. Based on the results of the first wave of Luftwaffe attacks, the disruption wave fulfilled its mission. As far as known with the limited Luftwaffe records still existing, the disruption attacks only took place opposite the area of Army Group Center--the most critical of the three Army Groups.

In the first wave, 637 strike aircraft (Stukas, bombers, destroyers) and 231 fighters (Me-109s)--868 aircraft total¹--took part in the attacks against the previously mentioned targets. Results of air strikes against targets other than aircraft are not available because an exact accounting was not made at the time of the attack. Aircraft losses, friendly and enemy, however, are known. The initially estimated Soviet losses from the first Luftwaffe strikes were 222 aircraft destroyed in the air and 890 on the ground,² but this figure turned out to be conservative. German aircraft losses for the first wave were

1. It must be pointed out that the entire strength of the Luftwaffe was not employed against the USSR at the start of Barbarossa. In fact only 61 percent of the Luftwaffe's strength was on the Eastern Front at the start of the campaign. See previously cited Lageberichten examined in the Bundesarchiv (Freiburg).

2. Lageberichten.

as follows:

2	Me-109s
1	Me-110
1	Hu-87
8	Ju-88s
6	<u>He-111s</u>
18	total

This figure of 18 German aircraft is somewhat misleading because a substantial portion of these losses was due to weapon malfunctions with the SD-2 and SD-10 fragmentation bombs. The SD weapons were essentially bomblettes carried inside of a canister, similar to numerous cluster type munitions used by air forces today. The SD bomblettes frequently, however, would not all release from the canister after having been armed. Occasionally, as a result, a bomblette would detonate inside of the canister, or would fall out and detonate upon landing or while taxiing after landing. These inadvertent detonations could destroy or severely damage the aircraft carrying the bomblettes. This problem was an especially acute one for aircraft like the JU-88 and He-111 which carried the SD canisters in an internal bomb bay. Shortly after the start of Barbarossa, the SD type munitions were banned for all aircraft which had to carry it internally as opposed to aircraft like the Stukas which had external bomb racks.

A sampling of typical German impressions from the first days flights is noted below:

German commanders are unanimous in their views on the effects of the concentrated German air attacks during the first few days, which were well organized and soundly conducted. Thus, Captain (Luftwaffe retired) Otto Kath, who at the time was a pilot in the 54th Fighter Wing in the northern area, writes that on their first mission the units of his wing dealt annihilating

blows to Soviet air units still on the ground on the Kovno airfield. The German bombs hailed into the SB-3 and DB-3 bomber aircraft closely packed along the runway and in front of the sheds. The German Me-109 escort fighters dived with the dive bombers or, after accomplishing their escort mission, searched out Soviet fighters in other areas of the airfield and destroyed most of them on the ground. Those that did manage to take-off were destroyed in their take off, or immediately thereafter.¹

"We hardly believed our eyes" reported Captain Hans von Hahn, commander of V Air Corps' I/JG 3, operating in the Lvov area. "Row after row of reconnaissance planes, bombers, and fighters stood lined up as if on parade. We were astonished at the number of airfields and aircraft the Russians had ranged against us".

Russian planes went up in flames by the hundred. In II Air Corps' sector, at Bug near Brest-Litovsk, a single Soviet fighter squadron attempting to "Scramble" was bombed while still in motion on the ground. Later the airfield boundary was found littered with burnt-out wrecks.²

The first attack caught complete air units upon the ground, unprotected. Within a few days the greater part of the Soviet air forces was destroyed. In the weeks that followed, the Russian Air Force appeared to be paralyzed; only small units, appearing at very infrequent intervals, participated in combat actions, and most of these were uncoordinated and unsystematic. The possibility of Soviet flying units halting or even delaying the swift advance of German Army groups, or of threatening the German homeland was eliminated. Within a few days it became clear that the technical superiority of Luftwaffe aircraft, the relatively higher level of technical and tactical training of German airmen, and the high morale and aggressiveness of individual German aircrews were more decisive factors in combat than the actual numerical strength of these units might have suggested. By accomplishing its primary mission, the Luftwaffe contributed materially to the great victories of the German Army in the East

1. Major General Walter Schwabedissen, Luftwaffe Retired, The Russian Air Force in the Eyes of the German Commanders, (New York, 1968), p. 54.

2. Bekker, Luftwaffe War Diaries, p. 552.

during the opening weeks of the campaign.¹

In an interview on 23 January 1980², Colonel Robert Poetter gave a personal account of the first mission flown by his unit in support of Army Group North. At that time Poetter was a major commanding the I. Group of Bomber Wing 76, equipped with Ju-88As. His unit was stationed at Jesau south of Koenigsberg. Poetter's target was the Russian airfield at Kedania, in Lithuania. Poetter had learned about Barbarossa and his group's mission the day before from his air corps commander Lt. Gen. Foerster at a meeting of all wing and group commanders within I. Air Corps.

Upon returning to his group at Jesau, Col. Poetter briefed his squadron commanders and then started preparing for the next days mission. Poetter was left complete freedom of action relative to the tactics to use in destroying the Red Air Force aircraft and ground organization at the Kedania airfield. Using the target folders prepared by Major Loytved-Hardegg, Colonel Poetter's group planned a high level ingress (4000 meters altitude), with a low level attack and low level egress. The munitions used by the group's attacking Ju-88As were the SD-2 fragmentation bomblettes. Each Ju-88 was loaded with a total of 360 individual SD-2s. The airfield target area had been divided

1. Major General Hermann Plocher, Luftwaffe Retired, The German Air Force versus Russia, 1941, (N.Y., 1968), p. 39.

2. Interview, Colonel Robert Poetter, Luftwaffe Retired, Kronburg, Federal Republic of Germany, 23 January 1980. In his interview, Col. Poetter made extensive use of his personal pilot's log book which he kept throughout the war.

up into three sections, each one being allocated to one of the three squadrons within the I. Group of Bomber Wing 76.

The group's mission started with a 0210 hours take off and ended with a landing at 0403 hours. After approaching the Kadania airfield at high altitude and sighting the targets, the Ju-88s dove to low (tree top) altitude and made one pass with the SD-2s. Col. Poetter recalls seeing about 30 Russian aircraft at the field. Poetter's group lost only one aircraft, but not due to enemy fire. One Ju-88 in a combat misadventure flew into an SD-2 which had been released from another Ju-88 in front of it.

Poetter related that a bomber unit to which he had previously been assigned, working at that time (22 Jun 41) with Army Group South, was severely restricted, by the air corps commander, as to the type of tactics to use in the first day's attacks with the SD-2s. Not only the target, but the exact ingress, egress, and tactics were specified. In contrast to the relatively low loss rate for Poetter's group in the North, the other group's losses were "extremely" high using the rigidly specified tactics.¹ The losses suffered by the unit in the South were due mainly to light flak as ingress, attack, and egress were all conducted at low level. Target identification was very difficult and exposure time to small caliber AAA was longer. Poetter feels one of the major reasons for the success of the group working under General Foerster was that Foerster allowed his commanders to determine the tactics which they felt

1. Interview, Poetter.



Illustration 43. "Infanterist der Luft" (air infantryman) Lieutenant General Wolfram von Richthofen (left), commander of the VIII Air Corps, coordinates air support with General Hermann Hoth, commander of Panzer Group III.

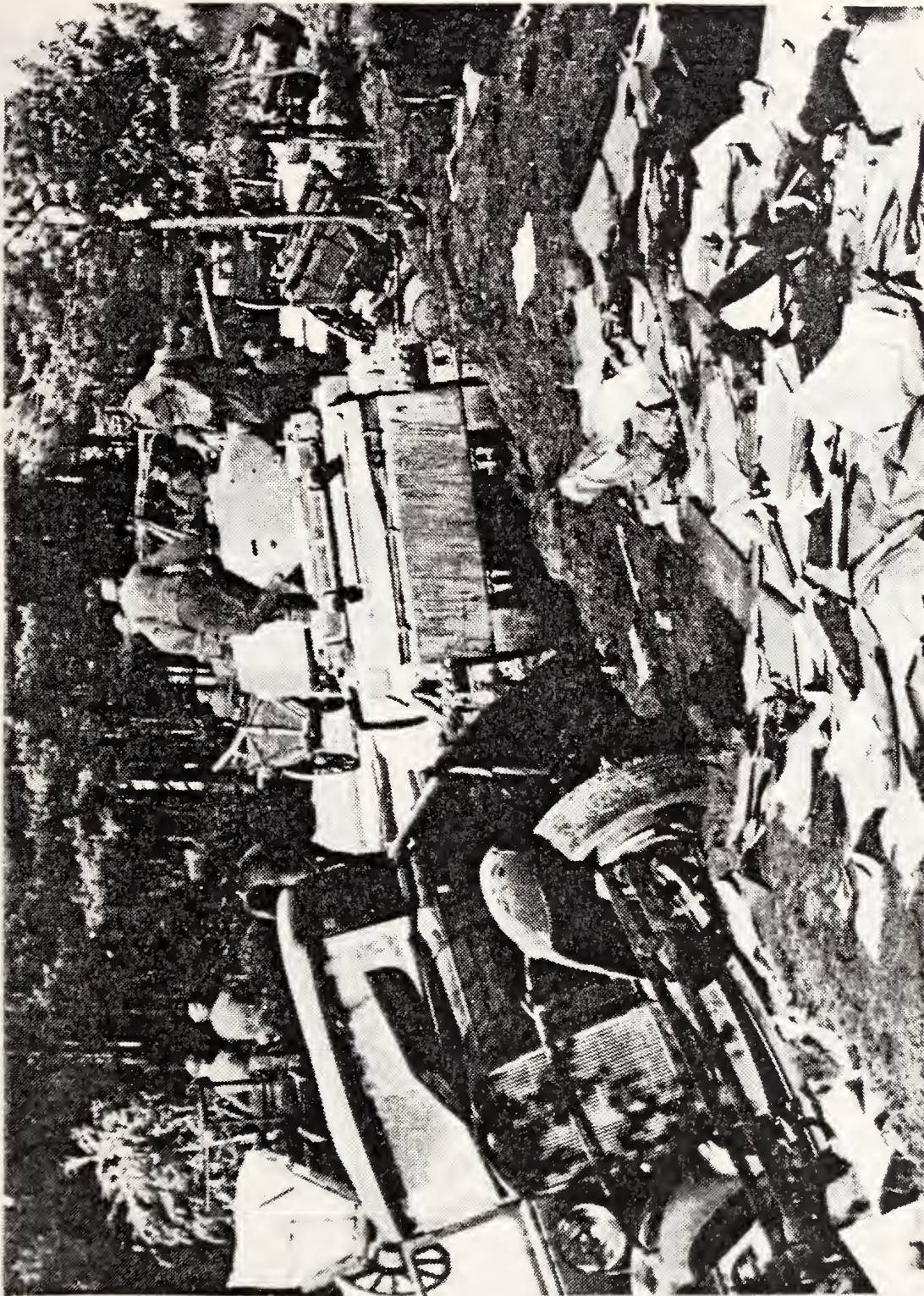


Illustration 44. Remains of a retreating Russian column at Bialystock destroyed by a Stuka attack, 30 June 1941.



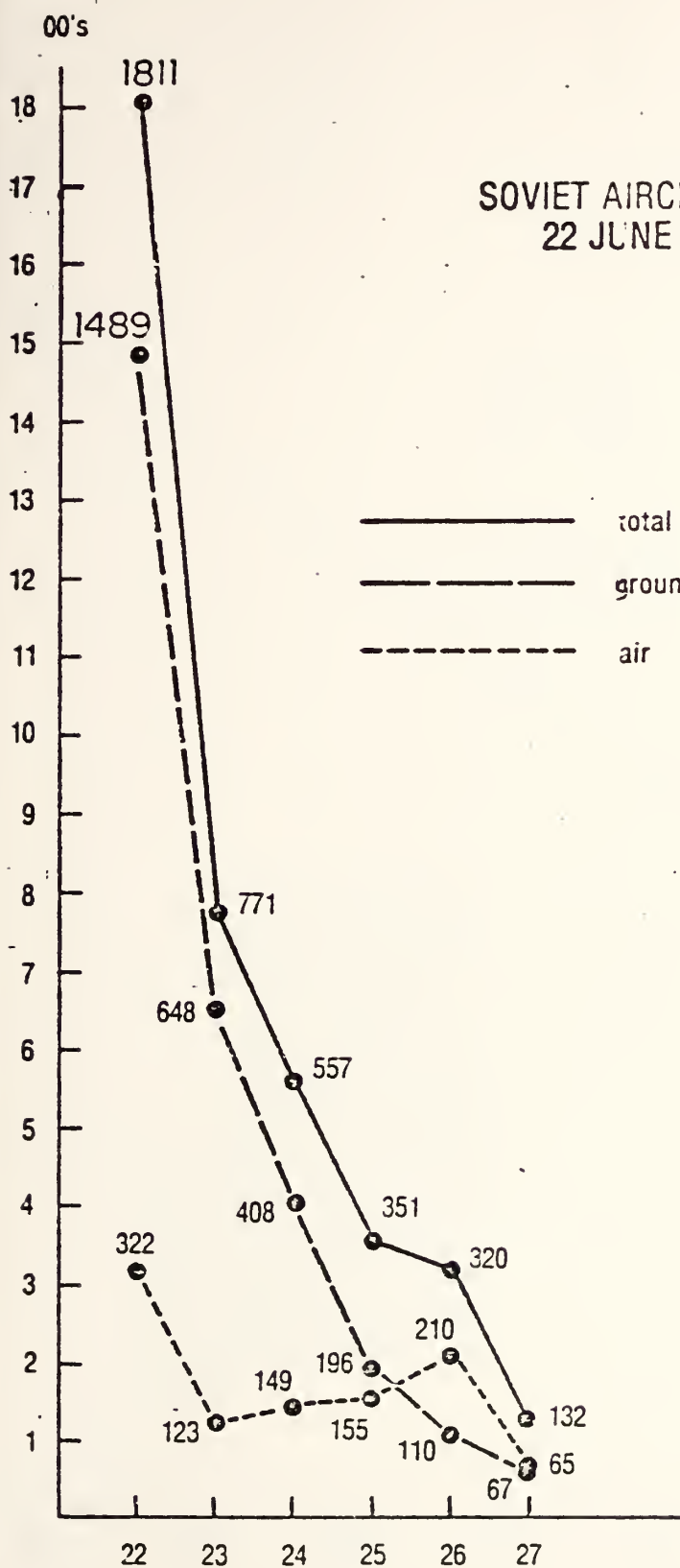
Illustration 45. Soviet rolling stock destroyed by Luftwaffe bombers at the Smolensk main train station, June-July 1941.



Illustration 46. Russian aircraft destroyed by Luftwaffe air attack early in the Barbarossa campaign. Note the German Ju-88A's in the background. Captured Russian airfields were quickly utilized by the Luftwaffe to support the rapidly advancing German Army in the first stages of Barbarossa.



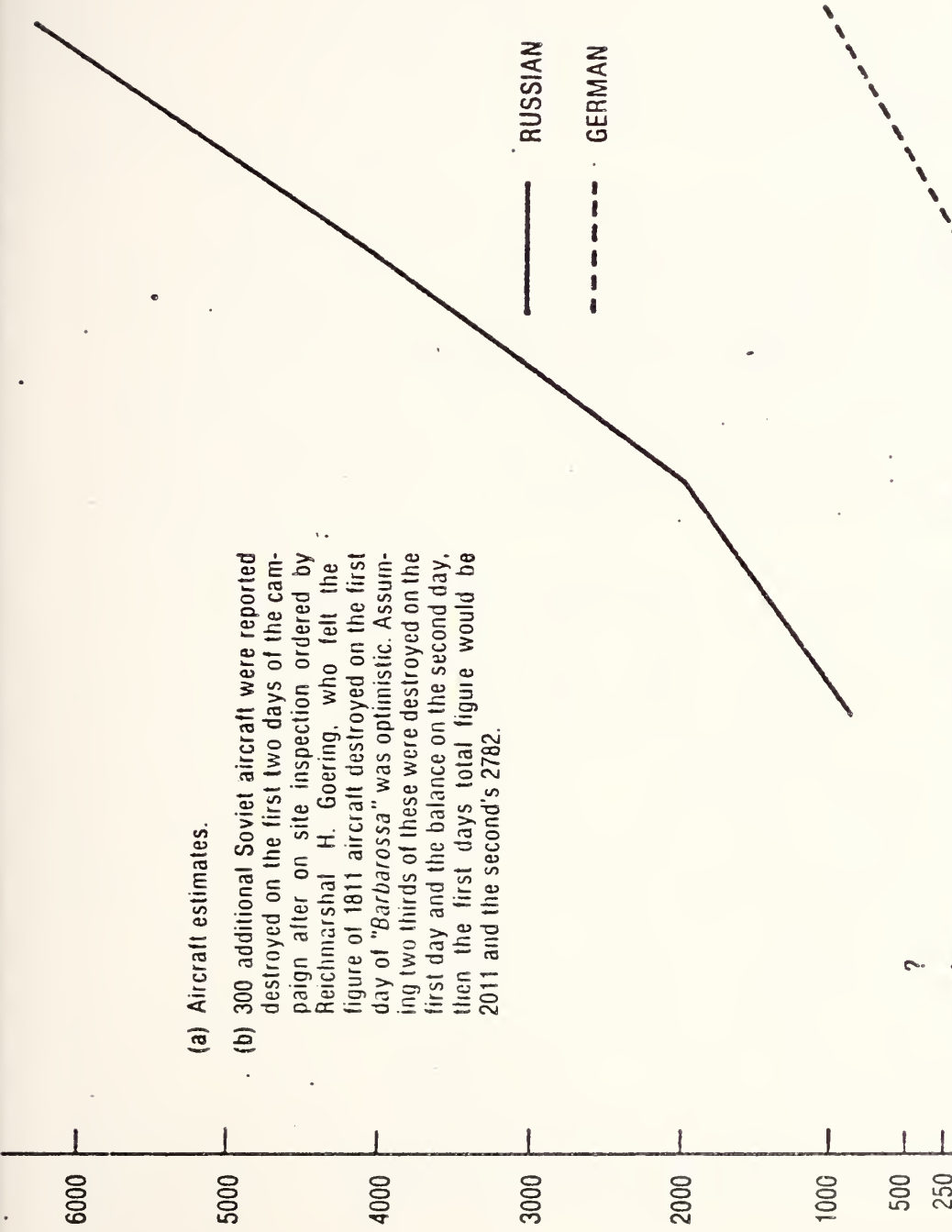
Illustration 47. The same Russian airfield shown in Illustration 46 from a different view. Note the dense parking of aircraft and the lack of any form of revetment.



*These figures are from daily reports which were reported each evening to the High Command of the Armed Forces. The actual losses based on subsequent on site inspection of Soviet airfields were considerably higher.

Chart 5.





(a) Aircraft estimates.

(b) 300 additional Soviet aircraft were reported destroyed on the first two days of the campaign after on site inspection ordered by Reichsmarshal H. Goering, who felt the figure of 1811 aircraft destroyed on the first day of "Barbarossa" was optimistic. Assuming two thirds of these were destroyed on the first day and the balance on the second day, then the first days total figure would be 2011 and the second's 2782.

TIME FRAME	DISRUPTIVE GM. ATTACK 22-6-41	1st WAVE 22-6-41	TOTAL LOSSES 22-6-41	TOTAL LOSSES THRU 28-6-41	TOTAL LOSSES GM - 2-8-41/SOVIET 10-8-41
TOTAL SOVIET	?	890 (a)	2011 (b)	4107	6293
TOTAL GERMAN	?	18	35	150	1023

Chart 6.

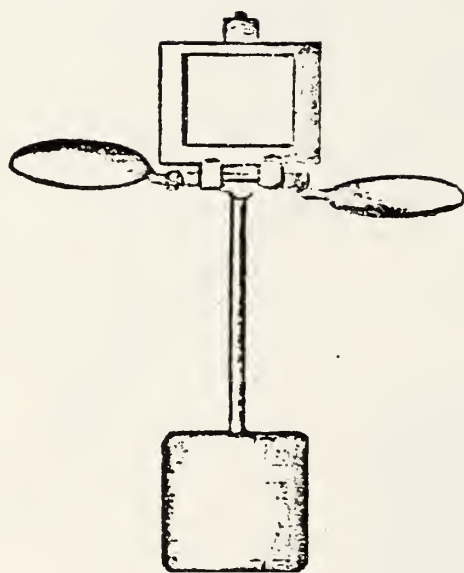


Figure 9 . The SD-2 Bomblette

were best and did not dictate the manner in which operations, were to be carried out. In Poetter's words: "We were told what we had to do, but not how to do it".

The Luftwaffe attacks achieved its assigned mission in Barbarossa of immediately overwhelming the Red Air Force in what was planned to be a short campaign. The Luftwaffe did achieve air superiority but did not completely destroy the Red Air Force. As General Adolf Galland stated:

"One of the guiding principles of fighting with an air force is the assembling of weight, by numbers, of a numerical concentration at decisive spots. It was impossible to adhere to this principle because of the urgent demands made by the Army. In spite of superiority and relatively small losses it was possible in the east to visualize a point in the future where the offensive strength of the Luftwaffe would diminish through a continuous exertion. The campaign had to be brought to a victorious end before this moment arose. The initial successes seemed to justify such a hope."¹

Notwithstanding later developments in the Russo-German War, the Luftwaffe fulfilled its mission relative to the concept of Barbarossa and, in fact, "destroyed" the Red Air Force for the planned duration of Barbarossa. The Chart on page 222a shows the extent of the Luftwaffe's success for the first few days of the campaign and especially the success achieved initially. On the first day of the war, the Germans traded 35 aircraft for approximately 2000 Russian aircraft, and, then, the Russian aircraft losses tapered off. These facts illustrate the tremendous effect of surprise on the losses early in the campaign. It is noteworthy that the operational ready rate of

1. General der Flieger Adolf Galland, Luffwaffe Retired, The First and the Last (N.Y., 1978), p. 65.

the Luftwaffe at the start of Barbarossa was only 70 per cent.¹ Had the Luftwaffe concentrated its air assets earlier in the concentration and preparation for the campaign in the East, it could have pushed the operationally ready rate much closer to 100 per cent. A determination was obviously made, however, that surprise was a more valuable factor than mere numbers of attacking aircraft. The fact that only 868 combat strike aircraft, out of 1280 available for operations, were used in the first wave of attacks supports this position. Commenting on the success of the Luftwaffe in his diary, General von Waldau states that 80 per cent of the success of the attack was due to surprise.²

The Red Air Force was the largest in the world in 1941 and the Soviet Union had an equally large aircraft industry to support the Air Force.³ Soviet soldiers and airmen had also been constantly bombarded with propaganda about the "invincibility of the Red Army".⁴ One can imagine the shock that swept through the Red Air Force when the magnitude of the initial Luftwaffe successes against the Soviet Union became known. In a single day, the Red Air Force fell from the world's largest air force to one that could not even maintain local air superiority

1. Lageberichten.

2. Bundesarchiv, General von Waldau, Luftwaffe Retired, "Tagebuch März '39 - 10.4.42" Chief des Luftwaffenfuehrungstabes.

3. Richard C. Lukas, Eagles East (Tallahassee, 1970), p. 6.

4. Alexander Werth, Russia at War, 1941-45 (N.Y., 1964), p.142.

within its own country. Throughout the war, the Red Air Force improved, but man for man and machine for machine it was not a match for the Luftwaffe even at the end of the war. German close air support aircraft would often work without the benefit of air cover for protection from Soviet fighters¹ even when they became engaged by those fighters.

There are 107 Luftwaffe pilots with over 100 air to air victories from World War Two, the vast majority of whom came from combat on the Eastern Front.² In contrast, the highest scoring Soviet ace from World War Two had 62 victories.³ The Russians never caught up with the Germans qualitatively in the air but outmatched them quantitatively. Russian production of 163,6874 aircraft surpassed German production of 113,514.⁵ Additionally the USSR was given 14,798⁶ aircraft on Lend-Lease from the United States, of which 14,062⁷ arrived in the USSR. The quantitative imbalance is all the more impressive because the Germans never concentrated more than 64% of their air assets in the East.

The rigidity of Russian air tactics was almost unbelievable. Field Marshal von Manstein described an incident

1, Hozzel, Recollections.

2. R. Toliver and T. Constable, Horrido (N.Y., 1977), p.368.

3. Ray Wagner, ed., The Soviet Air Force in World War II (N.Y., 1973), footnote, p. 175.

4. Ibid. p. 400.

5. Bekker, War Diaries, p. 556.

6. Lucas, Eagles, p. 233.

7. Interview, Hardegg.

at a bridge at Dvinsk on the Dvina River which had been captured intact by the Germans. On that occasion, wave after wave of Russian bombers attacked the bridge with no variation in direction or altitude of attack. At the end of the day, 64 attacking Russian aircraft had been destroyed by German fighters and flak. In the Red Air Force, blind obedience to the flight leader was the norm. In an interview, retired Luftwaffe General Loytved-Hardegg stated that often only the flight leader in Russian bomber formations actually knew what the target was and he was also the only pilot with an aeronautical chart.¹

The Luftwaffe was able to provide extensive support for German Army operations as early as the second day of the campaign. This support grew daily as the Luftwaffe mission shifted from destruction of the Red Air Force to interdiction and close air support, the latter being most prominent during all of 1941. The German Army was able to operate without fear of effective Red Air Force interference and with the impressive benefits of Luftwaffe fire support for German ground operations. The Luftwaffe, however, insidiously became a captive service to the German Army:

"In a study prepared during the war, the Military History division of the Luftwaffe General Staff discussed this subject in some detail. Even in 1941, as the study pointed out, the outstanding feature of air warfare in the East was the preponderance of Luftwaffe operations in support of the Army. Indeed, it soon became patent that the ground forces, confronted with forces superior in numbers, could make good progress only when attacks were supported by the Luftwaffe. This general condition, coupled with the mobile warfare

1. Interview, Hardegg.

mobile warfare which prevailed up to November 1941, required the commitment of almost all air units for close support, leaving only weak elements for "missions of a strictly strategical nature". The study concluded that if the number of aircraft and missions flown against Moscow be compared with the magnitude of the Anglo-American bombing effort against Germany, it must be concluded "that our strategic attacks cannot have been expected to produce decisive results".¹

The same problem of limited numbers of aircraft became true in the interdiction role German since air assets were simply not numerous enough to provide the quantity of sorties required to produce lasting results in interdiction. Rail interdiction was important in 1941 but produced only local results, and these were short lived due to the effectiveness of Russian repair crews.² It must be emphasized, however, that in the first few critical weeks of Barbarossa, the Luftwaffe fulfilled its mission, which was to allow the German Army to operate unhindered by Soviet air attacks and powerfully supported by Luftwaffe ground attacks.

Prior to World War Two, air forces around the globe were infatuated with the theories of the Italian General Giulio Douhet, and the Luftwaffe was no exception. After the carnage of the First World war, military and political leaders were receptive to Douhet's theory, which implied that the strategic use of airpower could be decisive in winning a modern war. Unfortunately Douhet's theories were just that--theories. Strategic bombing was not as effective as had been hoped in the Second World War, and Germany's war production was highest in

1. "Die wichtigsten allgemeinen Einsatzerfahrungen des Jahres 1941", Karlsruhe Document Collection, quoted in Deichmann's German Air Force Operations in Support of the Army.

2. Bundesarchiv, LW 118/4 4a.

1944, for example, at the height of the Allied bombing campaign. Both Allied and Luftwaffe tactical air operations, however, were enormously successful.

The Luftwaffe air attack plan for the start of Barbarossa was probably the most efficient possible considering the air assets available to the Germans in 1941. Had the Germans opted for a strategic bombing effort against Russian industry, as opposed to concentrating on tactical air support, the highly successful first phase of Barbarossa might have miscarried. In 1941, the Germans had no effective strategic air force and they concentrated their tactical aircraft on two tasks: (1) destruction of the Soviet air forces, and (2) support of the attacking German Army. The main mission of the Luftwaffe was continuous air attacks against enemy defenses and the hindering of the forward movement of Russian reserves by air attacks on highways and railroads in continuous tactical air support of the spearheads of the attacking German Army.¹ As the following quotation illustrates, the Luftwaffe found itself providing direct fire support and interdiction for the Army:

The Air Corps consequently found themselves acting mainly as mere auxiliaries to the Army's ground operations, and virtually no strategic air offensive was mounted.²

Another aspect of Luftwaffe operations which must be emphasized is that of air reconnaissance. One can get a better feel

1. Lieutenant General Paul Deichmann, Luftwaffe Retired, German Air Force Operations in Support of the Army. (N.Y., 1968), p. 160.

2. Bekker, War Diaries, p. 334.

for the importance that the Germans placed on reconnaissance merely by the fact that over 25 per cent of all Luftwaffe aircraft were committed to reconnaissance.¹ The operational reconnaissance mission was to "furnish information on which the Army commanders could base their operational decisions."² "The mission of tactical air reconnaissance was to provide information for the command and operation of army troops on the field of battle". After contact with the enemy was established German tactical reconnaissance transitioned to battle reconnaissance and artillery reconnaissance.

Luftwaffe operational reconnaissance was normally flown single ship at higher altitudes (16,500 to 24,400 feet) to avoid enemy fighters.³ In the target area the reconnaissance aircraft would frequently descend to lower altitudes in order to get a better view of details on the ground. Parachute flares were used on night reconnaissance missions for visual observations and flashlighting for taking photos. Radio reports in the air by returning Luftwaffe reconnaissance aircraft were avoided to prevent enemy radio intercept and subsequent enemy fighter attack.

Tactical, battle, and artillery reconnaissance were also flown single ship. Friendly fighter cover was normally

1. Alfred Price, Luftwaffe, Ballantine, NY, 1969, p.78.

2. Deichmann, Operations, p.58. The balance of information on air reconnaissance comes from Deichmann unless otherwise stated.

3. The Germans divided military operations into three areas: Strategic, operational and tactical. This study will consider strategic and operational to be synonymous.

requested in the area where air reconnaissance was to be conducted. Tactical reconnaissance was restricted to a range of 120 miles beyond the front lines and the aircraft would fly at high altitude until beyond the main lines and then descend to lower altitude for more accurate observation. Air reconnaissance sorties which were specifically for purposes of aerial photography were flown at altitudes of 16,500 feet and higher.

Battle reconnaissance missions were normally flown at altitudes below 6,600 feet. At night the aircraft would frequently operate at near ground level to obtain the detail required by the Army. Artillery reconnaissance had to be very flexible due to different types of friendly fire. For defense against enemy fighters, both battle and artillery reconnaissance would rely on friendly fighter and flak protection.

The Luftwaffe had an extensive system of liaison officers to see that the results from reconnaissance missions were disseminated to the Army. Fieseler Storch (Fi-156) aircraft were used by liaison personnel and for air drop messages. A consolidated digest of reconnaissance information was also broadcast three times daily by the tactical air command support staffs located with armies and army groups.

Both the Army and the Luftwaffe conducted separate air reconnaissance to serve their own purposes. Luftwaffe

1. The Germans divided military operations into three areas: Strategic, operational and tactical. This study will consider strategic and operational to be synonymous.

reconnaissance operations had been criticized before the war by the Army as often being conducted in accordance with viewpoints differing from those of the Army.¹ The Army, accordingly, had requested and received Luftwaffe reconnaissance squadrons which were specifically attached to Army units. These reconnaissance squadrons had missions which were determined by the Army unit to which they were attached.

Regarding the specific targeting of C³ it can be stated that such targeting was not a policy of the Luftwaffe in the early stages of Barbarossa and the three suspected higher staff headquarters targeted for the initial first wave attacks on 22 June 1941 seem to have been selected based on Army information and desires. Several factors may have contributed to the Luftwaffe decision regarding C³. Firstly, the Russian communications system, transportation net, and command structure were primitive by the German standards of 1941. Lack of sophisticated communications manifested itself also in the air with the Red Air Force where only the flight leader in a Russian bomber formation had navigation aids and the target information.² In conjunction with this study, four former Luftwaffe officers³ were interviewed, all of whom were involved in operations for the first four weeks of Barbarossa, and not

1. Deichmann, Operations, p. 86. In 1942 all air reconnaissance was transferred to the direct control of the Luftwaffe.

2. Interview, Colonel Hans-Henning Freiherr von Beust, Luftwaffe Retired, Muenchen, 22 Jan. 1980.

3. Three were flying operational missions, one was on Air Fleet One's staff.

one knew of a Luftwaffe air attack against a higher headquarters or communications center.¹ All of them personally recall being heavily engaged in attacks against airfields, railroads, railroad stations and transportation choke points.²

There were many Soviet C³ targets that were destroyed, but they were destroyed largely as by-products of larger operations whose goal was the physical destruction of enemy forces. Regarding communications, Col. Poetter said the Germans would avoid destroying an enemy (lower echelon) command post in order that they could use transmission from that command post for timely intelligence.³ There was, conversely, heavy emphasis on preventing the withdrawal of Red Army forces deep into the interior of the Soviet Union, as well as hindering the reenforcement of front line Soviet forces.

In all of the documents researched for this study, there was only one mention of C³ targeting. The targets of the VIII Air Corps with Army Group Center included known battlefield command posts.⁴ These targets were, listed, however, after the listings ordering the destruction of enemy air forces and the support of forward armored units. General Loytved-Hardegg said that the Germans would have attacked C³ targets had they known where they

1. Interviews, Hardegg, Beust, Poetter and Rudel. Interview with Colonel Hans-Ulrich Rudel, Luftwaffe Retired, Kufstein, Austria 20-21, Jan. 1980.

2. Ibid.

3. Interview, Poetter.

4. Bundesarchiv, "General Kommando VIII Fliegerkorps" "Angriffe gegen Russland" (erste Einsatze), Colonel Lothar von Heinemann, Luftwaffe Retired.

were. The primitive nature of the Soviet C³ system in 1941, however, largely precluded attacks against it as a viable option for the Luftwaffe.¹

From the German viewpoint of lessons learned, "there were three main reasons for the success of Barbarossa: surprise, Schwerpunkten, and Auftragstaktik."² To these factors stated by General Graf von Kielmansegg, Beust added the factor of flexibility.³ Considering the limited number of aircraft of aircraft allocated to the Luftwaffe, its contribution to Barbarossa can be considered as nearly optimal. There were of course mistakes made by the Luftwaffe, for example, the holding back of resources in late 1941 for the expected offensive against Great Britain after the Russian campaign had been successfully concluded.⁴ The decision to hold back aircraft was made at the highest political level in Germany, but, in spite of the decision, the Luftwaffe success in the opening stages of Barbarossa was about as complete as it could have been even with substantially more attacking aircraft.

The overall lessons learned from Luftwaffe support of the opening stages of Barbarossa can be summarized as follows:

1. Interview, Hardegg.

2. Interview, General Johann-Adolf Graf von Kielmansegg, Bundeswehr Retired, Bad Krozingen, Federal Republic of Germany, 19 Jan. 1980.

3. Interview, Beust.

4. Interview, Poetter.

1. The Luftwaffe was a tactical air force in effect subordinated to the Army.
2. In the Luftwaffe, responsibility for the success of missions was assigned to the lowest possible level.
3. Luftwaffe unit commanders were trained in the traditional German manner and their actions reflected that training.
4. The Luftwaffe effectively eliminated the Red Air Force for the planned duration of Barbarossa.
5. After the elimination of the Red Air Force, the Luftwaffe concentrated its efforts on close air support and interdiction in support of Army operations.
6. Effective strategic air operations were non-existent during Barbarossa.
7. Air reconnaissance was highly valued by the German Army and approximately 25 per cent of the German combat aircraft were dedicated to reconnaissance.

Barbarossa can be graphically depicted as shown on Chart 6 , where the exchange ratios are very high in favor of the attacker and then fall rapidly with time as the effect of surprise decreases. If the attacker maintains the initiative and momentum, the campaign is concluded before the favorable exchange ratio starts to drop off. The campaign against the Red Air Force is a case in point. The air battle was essentially won by the Luftwaffe in the first two days, after which the Luftwaffe had air superiority and operated essentially unhindered in its support of the Army for the duration of the time planned for the Barbarossa campaign.

The key questions at present are how will the Soviets conduct a Blitz of their own aimed at the West European states and how has the Soviet experience with the Luftwaffe in Barbarossa effected their thinking? If the Soviets follow the



Illustration 48. Captured I-16 "RATA" parked beside a Luftwaffe Me-109F. Markings on the German aircraft identify it as belonging to the II Group of Fighter Wing 54, assigned to Lieutenant General Foerster's I Air Corps in Air Fleet One.

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lessons learned from the Luftwaffe, then, in a general attack against Western Europe, they can be expected to consider the following possible actions:

1. Sacrifice total numbers available for an attack in favor of the achievement of surprise.
2. Attempt to eliminate the opposition air forces at the start of combat operations.
3. Concentrate on destruction as opposed to disruption, i.e., disruption would only be a means to an end which would be the destruction of enemy forces.
4. Heavily commit air forces to aid in the support of Red Army operations.
5. Improve the efficiency of their own communications net.

If the Soviets attack NATO, will the Soviet air forces have the same effect as did the Luftwaffe against the Russians in 1941? The answer is clearly no. To assume that the Russians could expect the same aircraft combat exchange ratio of 100 : 1 demonstrated by the Germans in 1941, is unreasonable. Large numbers of NATO combat aircraft are parked in blast hardened shelters. A significant portion of NATO air forces are in a constant alert status. NATO's early warning radar net is highly efficient and could be expected to preclude a complete surprise air attack against NATO airfields. In spite of these conditions which have enhanced the defense of Europe, a massive Soviet surprise attack could seriously, or even critically, hamper NATO's ability to defend Western Europe.

The Soviets do not need a 100 : 1 exchange ratio in aircraft losses, because the Warsaw Pact air forces already outnumber the NATO air forces. At an exchange ratio of 1 : 1, the attacking

Warsaw Pact would have aircraft left over to support army operations. It can be further assumed that, if the Soviets follow the lessons learned from the Luftwaffe in Barbarossa, they will attempt to destroy as many NATO aircraft as possible early in the campaign.

Introspectively one might place oneself in the position of the Warsaw Pact Air Force commander and ask the question: "How can I best support the ground forces in the attack on NATO?" Two factors immediately come to mind. The Warsaw Pact ground forces want protection from NATO air attacks and protection for their logistics system from NATO aircraft conducting interdiction missions. These factors require air superiority and the least expensive method for attaining air superiority is to destroy the enemy's air force on the ground. It must be remembered, however, that the Germans in Barbarossa targeted three suspected higher staff headquarters for attack in the first wave of attacking Luftwaffe aircraft. The Germans apparently felt at that time that the staff headquarters were of such importance that a few sorties could be spared from the first mission of obtaining air superiority.

One significant difference between the Luftwaffe in 1941 and the Soviet Air Force today, is that the Germans in 1941 did not know where all of the Russian airfields were. Although the Germans did their best to pinpoint all of the Russian airfields they did not know for sure that they had located all of them. Conversely it can be assumed that the Soviets today know the exact location and it is a tempting option for the Warsaw Pact Air Commander to allocate all of his combat aircraft assets for a

great first wave attack against all of the NATO airfields at the start of combat operations. Another option would be to allocate a small portion of the attacking Warsaw Pact aircraft to C³ targets, while the majority of combat aircraft would be dedicated to destroying NATO's air forces. This second option would be parallel to the Luftwaffe attack in June of 1941.

Chapter 6.

German Special Counter C³ Operations in Barbarossa

On 22 June 1941, even before the first artillery rounds were fired into the Soviet Union at 0305 in the north and 0315 farther south,¹ agents of various nationalist organizations and German members of the Brandenburg Regiment had unobtrusively infiltrated across the Soviet border. The Germans had difficulty in introducing agents into the Soviet Union because of the strict Soviet border controls,² and eight Ukrainians of the Organization of Ukrainian Nationalists (OUN) were intercepted, in fact, by NKVD guards in the ten days preceding the attack.³ Those who successfully crossed into Russia proceeded to execute their assignments and disrupt Soviet C³ by preventing the collection and dissemination of information about attack, interfering with command and control, and generally disrupting the Soviet response to the German invasion. Near Brest, for example, in the Western Special Military District opposite Army Group Center, the Soviet 4th Army interrogated a German deserter who had crossed the

1. During the six months preceding Barbarossa 17,000 trains rolled eastward with war materials. For their attack on the Soviet Union the Germans had deployed over 3,000,000 men, 141 divisions of which 19 were Panzer, 3,350 tanks, 7,184 Artillery pieces, 600,000 lorries and a like number of horses, and over 2,000 aircraft. See The Halder Diaries, p.964 and Erickson, The Road to Stalingrad, p.98.

2. Generalleutnant a.D. Andreas Nielsen, The Collection and Evaluation of Intelligence for the German Air Force High Command, unpublished, U.S. Army, Office of the Chief of Military History, p.139.

3. See J. Ericksen "The Soviet Response to Surprise Attack: Three Directives, 22 June 1941," Soviet Studies, April 1972, p.521.

border near Volchin during the night of 21 June 1941. At 0220 the next morning, 4th Army officials attempted to disseminate the results of their interrogation, which included evidence of pending German attack, and discovered that their telephone lines had been cut. The destruction of the lines had been carried out by infiltrators from across the Reich border. Even before this time, 4th Army had been cognizant of the interruption in Brest of electric power, the water supply, and the telephone system. These interruptions were apparently inflicted by Brandenburgers who were dressed as Red Army soldiers and who were also at work spreading alarm and confusion and assisting Army assault detachments in seizing bridges.

The damaging of communications partly isolated the Soviet 4th Army and had graver consequences than slowing down the distribution of the information on the German deserter at Volchin. At 0030 on 22 June, the Soviet High Command had transmitted a warning about the German attack and directed units to prepare for combat and disperse aircraft on all airfields. The Soviet 4th Army did not receive this directive until too late to be of value at 0530, and the activities of the Brandenburgers contributed to the delay. The Luftwaffe had already attacked the neatly aligned rows of Soviet aircraft and Army Group Center had captured intact the six Bug River Bridges guarded by the Soviet 4th Army.¹ Other units did not receive official warning of the German attack until 0800, almost five hours after the onslaught began. The disruption of the communications of the Headquarters,

1. Ibid.

4th Army, before the attack was not an isolated incident. As far south as Sevastopol on the Black Sea, communications had also been disrupted as a prelude to the initial German assault. At 0320 the commander of the Sevastopol garrison, Major-General Morgunov, while attempting to black out the city as German aircraft approached, realized that his communications had been tampered with. Communications between Moscow and the Sevastopol Naval Headquarters, however, continued to function as before.¹

As German regular army units crossed the border, diversionists and saboteurs accompanied them to spread the disruption begun by their comrades earlier in support of the German advance. The goal of the diversionists and saboteurs was to interfere with the Soviet Command and hinder Soviet response to the attack of the German Army and Luftwaffe. German commandos accomplished this goal by severing communications links to prevent the exchange of intelligence and the issuance of orders. The Soviet History of the Great Patriotic War recounts that, "After the first shot...the diversionists cut communication lines linking headquarters army-to-corps and corps-to-divisions."² The communication lines noted were apparently telephone and telegraph lines. German commandos also helped to seize key transportation facilities, particularly bridges, to facilitate the rapid advance of the mobile German formations and interrupt Soviet attempts to establish a cohesive defense. In Army Group North's area alone,

1. Ibid.

2. History of the Great Patriotic War of the Soviet Union, 1941-1945, Volume II, Military Publishing House of the Ministry of Defense of the USSR, 1961, p.12.

Lithuanian activities seized twenty-four bridges during Barbarossa.¹ On the first day of the campaign, Brandenburgers assisted Army Group Center units in capturing intact all bridges across the Bug River as part of the Army Group's first move into Soviet territory.² Still further south, elements of the Brandenburg Regiment established a bridgehead over the San River for Army Group South.³

The three German Army Groups achieved almost total surprise along the entire front when German artillery opened fire against Soviet fortifications, troop concentration and artillery positions.⁴ Behind the border itself, German air and artillery fires caught Soviet frontier guards and Army troops in their barracks or racing half-dressed to occupy their positions. Many of these positions remained empty as German forces advanced swiftly through the Soviet border defenses.⁵ Elsewhere, the Soviet Air Force, its fighters and bombers sometimes aligned wing to wing, stood exposed to the surprise appearance of the Luftwaffe. Only Major-General M.V. Zakharov, commander of the still forming 9th Army in the Odessa Military District, ordered his aircraft dispersed before dawn, a precaution he instituted on his own initiative without authorization from higher headquarters.¹

1. H. Hohne, Canaris, (N.Y., 1979), p.467.

2. J. Erickson, The Road to Stalingrad, (N.Y. 1975), p.109.

3. H. Hohne, Canaris, p.460.

4. See material cited previously in the History of the Great Patriotic War of the Soviet Union 1941-1945, and Plocher, German Air Force, Vol. I, p.15, and Erickson, The Road to Stalingrad, pp.115 and 116.

5. Erickson, The Soviet High Command, p.587.

Enjoying surprise and the associated initiative and concentration of effort, the Germans generated attacks which displaced the opposing Soviet units, and, by physical movement and fire, jolted Soviet C³ into ineffectiveness. The Soviet 11th Army covered the Baltic Military District at its boundary with the 3d Army of the Western Special Military District. Army Group Center enjoyed particular success at this point, attacking with such strength that the Soviet 11th Army units were scattered or destroyed. The unexpected displacement of units within the 11th Army in response to the German attack destroyed communications between the army staff and subordinate commands, precluded intelligence reporting, and prevented a coordinated response.² Meanwhile Lieutenant-General Kuznetsov's 3d Army, opposing the 9th German Army, had lost all telephone and radio communications within the first hour of battle, and, except for runners, was isolated from the 11th Army to the north, the 10th Army to the south, and the Western Front to the rear.³ The 10th Army was in a similar predicament since its telephone lines had been severed and its radio communications jammed.⁴ Obviously such a bleak situation prevented an accurate assessment of the German advance by Soviet commands at all levels and precluded a coordinated, strategic response.

1. Erickson, Stalingrad, p.111.

2. History of the Great Patriotic War of the Soviet Union 1941-1945, p.18.

3. Erickson, Stalingrad, p.129.

4. A. Werth, Russia at War, (Barrie and Rockliff, 1964), p.153.

The disruption prevalent in the Western Military District affected Moscow as well, which failed to get an accurate picture of events in the West. After almost seventeen hours of battle, the "center" in Moscow issued Directive Number 3 ordering the Northwestern, Western, and Southwestern Fronts to take offensive action using coordinated operations and carry the war to enemy territory. Marshal Timoshenko reflected the general confusion of 22 June in Directive Number 3 by ordering attacks at unrealistic times by partly destroyed mechanized forces which were to be supported by a disintegrating Red Air Force. The Fronts experienced extreme difficulty in complying with Directive Number 3 but nevertheless counterattacked westward and contributed to the German encircling operations at Bialystok, Minsk and Smolensk.

In the days after 22 June 1941, nationalist agents and Brandenburg units continued to support the operations of those armies to which they were assigned by cutting rail lines, severing telephonic communications and spreading general disorder but with decreasing effect. Commandos remained relatively active in front of Army Group North where members of the Brandenburg Regiment posed as Soviet casualties in two captured lorries and helped regular army units to seize the Dvinsk roadbridge over the Dvina River for Manstein's advancing 56th Panzer Corps. Elsewhere Lithuanian activists seized twenty-four key bridges in advance of General Busch's 16th Army, and anti-communists in a Lithuanian Division at Vilna shot their political commissars and turned their unit over to the Germans.¹ In Lemberg, in the

1. H. Hohne, Canaris, p.460.

south, Ukrainian members of the Brandenburg Regiment seized the local radio transmitter on the night of 29-30 June and spread disorder among the local populace and military by proclaiming an independent West Ukrainian State.¹

The Germans directed an enormous psychological warfare effort against the Red Army and achieved the surrender of individuals and small groups as well as entire battalions.² Consider that 140 million leaflets were air-dropped by 16 August 1941, the earliest date for which statistics are available, and that other means of psychological war such as loudspeakers and radio broadcasts were also used. Lieutenant General Wolfram von Richthofen, VIII Air Corps Commander, has related that , by 11 July, the leaflet program had indeed produced tangible results and that Soviet deserters said many more Red soldiers were ready to desert but were afraid to do so without their own individual leaflets, or "special life insurance certificate" as they called them. Thereupon the Luftwaffe produced and distributed briefer leaflets valid for several persons. As a result the number of deserters clearly increased.³ The overall German psychological warfare effort reduced the number of Soviet soldiers in the field opposing the German forces and disrupted C³ in the cases of those regiments and divisions from which entire battalions deserted.

1. P. Leverkuehn, German Military Intelligence (Weidenfeld and Nicolson, 1954), p.165.

2. See Captain Bucksbaum, German Psychological Warfare on the Russian Front 1941-1945, (Department of the Army, 1953), for a detailed analysis of the German Psychological Warfare effort and its effects.

3. See Plocher, German Air Force, Vol. I, p.99.

The tempo and surprise of the German attack simplified the German tactical signals intelligence task because many normally encoded Soviet radio transmission were sent in the clear for battle expediency. Throughout the war against the Soviet Union, the Germans considered the information produced by their signals intelligence service as extremely credible.¹ General Franz Halder, Chief of the German General Staff, for example, noted in his diary entry for 31 July 1941, information produced by signals intelligence which delineated the new Soviet Army command structure instituted on 10 July, complete with the names of the new theater commanders.² Earlier, on 6 July, as Panzer Group 2 advanced towards Smolensk, signals intelligence informed General Guderian of a new army headquarters directly to his front in the Orsha area. Aware of this information, Guderian realized he would have to hasten his attack across the Dnieper to prevent the new army from establishing a coherent front and preventing the seizure of Smolensk.³ German divisions responded quickly to signals intercepts and when the 97th Light Division at Lubaczow on 22 June intercepted a message at noon indicating the enemy could no longer endure its artillery regiment's punishing fires, it pressed on and seized its objective by 1400.⁴ The Germans also routinely intercepted Soviet facsimile transmissions which

1. Generallieutnant a.D. Nielsen, p.152.

2. See Halder Diaries, p.1089.

3. H. Guderian, Panzer Leader, (Zenger, 1979), p.166.

4. Advanced Combat Operations of the 81st Artillery Regiment With the 97th Light Division, 22 June-10 July 1941, (unpublished, 1947). In files of U.S. Army, Office of Chief of Military History.

were sent by Soviet civilian agencies early in the war.¹

The Germans rarely entered Soviet radio nets for the purpose of deceptive disruption but, during Barbarossa, there was at least one incident of the Germans employing captured Russian radios to enter Soviet nets for deceptive purposes. During July, the Germans deceived the Soviets into redeploying Red Army units in response to a phony threat developing along a wooded, swampy area of the Luga River. This threat was conveyed via Soviet radio nets and successfully relieved the pressure on German units establishing a bridgehead across another section of the Luga River.²

1. Praun, Radio Intelligence, p.227.

2. E.F. Raus, Deceptions and Cover Plans, (unpublished, 1951). In files of U.S. Army, Office of Chief of Military History.

Chapter 7

Barbarossa Lessons and Conclusions

The research team reconstructed the German disruption of Soviet command, control, and communication during the opening stages of Barbarossa. The reconstruction was based on interviews with German and Russian participants in Barbarossa, examination of original unpublished documents at the West German Military archives in Freiburg, examination of photographs at the Federal Archives in Koblenz, and the use of various reference-type published sources. The study takes the position that Soviet C3 was part of a continuum which extends from command, control, and associated communications hardware across a transportation network to the combat forces assigned to field commanders. Soviet C3, accordingly, could be disrupted not only by direct attack against headquarters staffs and associated communications hardware but also by the seizure or destruction of the transportation system and the destruction of the assigned combat forces. In considering C3 as part of a continuum which includes the transportation system and assigned combat forces, the research team cast the net of analysis widely enough to include factors which had an impact on C3 and were necessary for the establishment of a satisfactorily complete picture of disruption.

In the study it was necessary to consider whether or not there was a reasonable historical analogy between the existing historical event, Barbarossa (1941), and a postulated Soviet offensive. The Germans had synthesized various factors into a successful military offensive at the beginning of a war in the

planning and execution of Barbarossa (1941). Those factors are listed below and displayed side by side with identical considerations for a potential Soviet offensive in Central Europe:

Barbarossa Historical Analogy

<u>Barbarossa (1941)</u>	<u>Soviet Offensive in Central Europe</u>
1. Political state, medium size, highly developed military style & technology: decision to attack large, inferior style & technology opponent (USSR).	1. Political state, large size, highly developed military style & technology: decision to attack medium size, slightly superior style & technology opponent (NATO).
2. (Fact) Attacker maintains secrecy.	2. (Forecast) Attacker maintains substantial secrecy.
3. (Fact) Attacker achieves strategic & tactical surprise.	3. (Forecast) Attacker achieves substantial surprise.
4. (Fact) Attacker seizes initiative and effects concentration of effort.	4. (Forecast) Attacker seizes initiative and effects concentration of effort.
5. (Fact) Attacker Superior in Technology, Tactics, Mobility, Flexibility.	5. (Assumption) Attacker Slightly Inferior in Technology, Tactics, Flexibility.
6. (Fact) Attacker Holds Initiative for Six Months.	6. (Forecast) Attacker Maintains Initiative in First Engagements.

Working within the framework of the factors noted above, the German Army had to overcome 15,000 Soviet military aircraft, 20,000 tanks, and hundreds of thousands of riflemen controlled by a primitive C3 system. In the first 18 hours of the campaign, however, the Army achieved territorial gains which shattered Soviet C3 in the Soviet Western Military District (Central Front) through the seizure of crucial parts of the transportation system and the concomitant displacement or destruction of numerous command centers of the Soviet ground armies. German Army Group

Center continued to advance in the following two phases and register the disruption noted below:

Barbarossa Results
(Success of the German Army)

1. Bialystok-Minsk (22 June - 8 July 41) (Army Group Center)
 - a. Destruction HQ, 3rd Army, Traumatized Displacement HQ, 4th Army.
 - b. Penetration 500 km into USSR to Dnieper
 - c. Prisoners & KIA: 424,000 (loss ratio 88:1)
 - d. Tanks Destroyed or Captured: 3,332 (loss ratio 16:1)
2. Smolensk (9 - 27 July 41) (Army Group Center)
 - a. Traumatized Displacement HQ, Western Front
 - b. Penetration 750 km into USSR to East of Smolensk (15 July 41)
 - c. Prisoners & KIA: 400,000 (loss ratio 72:1)
 - d. Tanks Destroyed or Captured: 3,106 (loss ratio 16:1)
3. General: Germans seize Smolensk "Land Bridge", stand ready to attack toward Moscow opposed by decimated, uncoordinated Soviet field armies (27 July 41)

Soviet C3 collapsed in the face of the deep penetrations, immense territorial gains, and casualties and damage achieved by Army Group Center. The Soviet command, from the Stavka, or general headquarters of the armed forces in Moscow, through the Western Front, armies, corps, and divisions frequently lost track of its own forces during this time and consistently failed to coordinate counterattacks. Well over half way to Moscow by 15 July 1941, the German field armies stood close to victory in the war by the middle of the summer of 1941.

Several lessons and warnings stand out from the achievements of the German Army in Barbarossa (1941) and the establishment of an historical analogy between Barbarossa (1941) and a future Soviet offensive. The German Army completely disrupted and largely destroyed seven Soviet field armies on the Western Front by the last

half of July 1941. If the historical analogy between the past and postulated future offensive were strong, one would have to be extremely pessimistic about the chances of the military survival of NATO. In a more realistic and optimistic vein, however, it can be considered that NATO is in a more alert posture with relatively higher quality forces than was the case with the defender in Barbarossa (1941). Such optimism is counterbalanced to some degree by the forecast numerical superiority of the attacking Soviets, the more closely matched technical and tactical qualities of the Soviet and NATO forces, and the assumption that a significant degree of secrecy and surprise with accompanying initiative and concentration of effort can be effected by the attacker. The balance between Soviet weakness and strengths in a postulated Soviet offensive in Central Europe can be summarized as follows:

Postulated Soviet Offensive in Central Europe
(Barbarossa II)

<u>Soviet Advantages</u>	<u>Soviet Disadvantages</u>
1. Limited NATO space.	1. Defensive Russian Historical Style, i.e., Potentially Inept Conduct of Grand Offensive Opns.
2. Superior USSR Numbers.	2. Moderately Inferior Soviet Weapons, Fire Control, and C3 Hardware.
3. Soviets As Attackers Can Achieve Significant Degree of Surprise.	3. Moderately Inferior Soviet Tactical Flexibility and and C3 will Partially Negate Surprise.
4. Soviets As Attackers Will Seize Initiative and Concentrate Effort at Crucial Points in Battle.	4. Soviet Difficulty in Achieving Surprise Will Limit Scope and Time of Soviet Initiate and Concentration of Effort.
5. Well Developed NATO Transportation Network.	5. - - - - -

The lessons and warnings of Barbarossa-style offensives would be the following. The attacker accrues enormous advantages by seizing the initiative and concentrating his effort at predetermined areas in the battle. The limited space for defense, the well developed transportation network, sophisticated and readily targeted C3, and the forward defensive strategy of NATO offer great opportunities for the attacker. In Barbarossa (1941), the Germans overloaded the defending Soviet command by advancing across a broad front while concealing the points of main effort in the background noise. It was only after approximately 72 hours of combat that the Germans accelerated out of the predetermined areas of main effort to encircle major Soviet forces. In an instructive twist in Barbarossa (1941), the defending Soviets also took enormous casualties as attackers while attempting to break through the German lines of encirclement. In a postulated offensive in Central Europe, the Soviets may not be able to hold on to the initiative so effectively as the Germans did in the earlier Blitzkrieg. The relatively greater mobility and flexibility of the NATO forces may come into play rapidly enough to block and cut off the Soviets along their main avenues of advance. Superior NATO C3 and historical command style could contribute decisively to a successful NATO recovery from the first rush of the Soviets. Yet the counterbalancing Soviet advantages of a significant degree of surprise could result in crippling attacks against the hardware sensitive NATO C3 and overloading of the remains of the system with superior numbers and concentration of effort at crucial areas in the battle.

The Luftwaffe contributed heavily to the success of the German Army in Barbarossa (1941) by immediately gaining air superiority, giving the Army the resulting advantages of aerial observation over the battlefield, and shifting from the destruction of Red Air Force aircraft and installations to intervention in the ground combat by the beginning of the third day of the war. The deeply penetrating German Panzer columns were largely free from air attack, had excellent information about the enemy from short and medium range reconnaissance aircraft, and received powerful, flexible fire support from tactically effective dive and medium bombers. The defending Soviets were blinded in the air, and harassed, damaged, and slowed in their movements on the ground by the Luftwaffe. If the Soviet Air Force in Europe in a Barbarossa-style offensive can achieve a significant degree of secrecy in its concentration and surprise in its attack, its superior numbers and moderately high quality may allow it to gain air superiority for a long enough period to give additional impetus to the Soviet ground armies through interdiction and paralysis of NATO movement and mobile fire support at the heads of the advancing Soviet armored columns in fluid conditions of combat tending to fragment air defense systems.

In reconstructing the German disruption of Soviet C3 during the opening stages of Barbarossa, the research team accomplished several specifically delineated research tasks. The tasks involved the identification, assessment, determination, or gauging of the effects of the German attacks in several areas of C³ interest. The research tasks, associated areas of interest, and

the conclusions of the study are the following ones:

Research Task

Conclusions

- | | |
|---------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| 1. Identify Soviet C3 which Germans Planned to Attack. | 1. German Army & Air Force Planned to Attack Extremely Few C3 Targets. |
| 2. Identify Soviet C3 which German Actually Attacked. | 2. Suspected Army-Level Headquarters & Several Telephone Exchanges. |
| 3. Assess Germans' Success In Disrupting Soviet C3. | 3. Immense Disruption Resulting From German Overrunning, Encircling, and Destruction of Soviet Field Armies. |
| 4. Determine Shifts in C3 Hardware Being Targeted. | 4. Germans Placed Little Emphasis on Targeting of Soviet C3. |
| 5. Gauge Weight of German Attacks vs. C3 in Comparison With Attacks | 5. Germans Directed Few Air or Ground Attacks vs. Soviet C ³ |

In the immediate opening of Barbarossa, the German Army targeted practically no Soviet C3 facilities with either artillery fires or raids by special infantry or tank forces. The Army concentrated its movement toward strategic terrain seizure of which would assure the destruction of opposing major groupings of the Red Army. The Luftwaffe targeted three facilities which had been identified as building complexes possibly housing higher staffs on the morning of 22 June 1941. The Luftwaffe launched the remainder of the aircraft of the first wave in Barbarossa entirely against the installations of the Red Air Force except for a few missions in support of ground forces faced with uniquely difficult assaults demanding dive bomber attack. As the war progressed through the first hours and following days, the Luftwaffe shifted from attacks on Soviet air installations to raids in support of the Army including (1) close air support against

artillery positions, troops, fortifications, and armor, and (2) interdiction of the Soviet transportation network. A small number of missions within the category of interdiction were carried out against suspected Soviet headquarters and C3 telephone exchanges in several larger cities. For both the German Army and the Luftwaffe, the relatively primitive Soviet C3 system comprised targets which were difficult to locate. The Germans considered such targets as having extremely high priority for either attack or monitoring, as the tactical situation dictated, but Soviet C3 installations and hardware remained predominately a small number of targets of opportunity.

APPENDIX A.

EQUIVALENT GERMAN AND U. S. GENERAL OFFICER RANKS

WORLD WAR TWO

<u>GERMAN</u>	<u>UNITED STATES</u>
Reichsmarschall des Grossdeutschen Reiches (1)	No equivalent
Generalfeldmarschall	General of the Army, or Air Force
Generaloberst	General
General der Panzertruppe (der Flak, etc.)	Lieutenant General
Generalleutnant	Major General
Generalmajor	Brigadier General

POST WORLD WAR TWO

<u>GERMAN</u>	<u>UNITED STATES</u>
General	General
Generalleutnant	Lieutenant General
Generalmajor	Major General
Brigadegeneral	Brigadier General

- (1) This rank was reserved for Hermann Goering
- (2) Ausser Dienst, signified by the initials a.D., refers to a German officer in retired status.

APPENDIX B.

Luftwaffe combat aircraft strength on the East Front after one month of combat (*) (23.8.41) +

	<u>TOTAL NUMBER</u>	<u>OPERATIONALLY READY/%</u>	<u>% OF TOTAL LW ASSETS</u>
BOMBERS	940	450/47	73 He-111/Ju-88
DIVE BOMBERS	330	220/66	86 Ju-87
FIGHTERS	590	340/57	51 Me-109
DESTROYERS	<u>85</u>	<u>35/41</u>	<u>83</u> Me-110
	1945	1045/53	64

*A total of 65 groups of aircraft - liaison, recce, and transport

+This can be compared with 61 groups on the East Front at the start of Barbarossa with a total strength of 1830 aircraft, of which 1280 were operationally ready (70%). Two fighter and two bomber groups had been transferred to the East during this period.

SOURCE:

Der Luftwaffenaufmarsch 1941 gegen Russland, Gen. Qu.
6 Abteilung, Karlsruhe Document Collection, 1956.

APPENDIC C

THE BARBAROSSA QUESTIONNAIRES
(English and German)

GREETINGS

Dear

Major Ratley and I are working on a U.S. Department of Defense research project, the success of which will depend on your past experience of war and your ability to recount that experience. During our stay in West Germany and Austria in January-February 1980, we shall attempt to reconstruct the German disruption of Soviet command, control and communications during the opening stages of Barbarossa. We are particularly interested in the staff and other (1) plans for the disruption of the command and control mechanisms and communications facilities, and (2) actual attacks against the same mechanisms and facilities of the Soviet armed forces. Your experience in the planning (July 1940-June 1941) and execution (June-July 1941) of Barbarossa is the most important resource which exists for the reconstruction of the offensive and its impact on the Soviets. The thesis which we are testing is that the enormous success of the German armed forces at all levels during the opening stages of Barbarossa has been an important influence on the development of Soviet strategy, tactics, and organization to the present day and largely explains the heavy emphasis placed by the Soviets on stunning opponents at the beginning of major offensives.

Military documents on the war tend to be laconic in the style of order writing and war diary reporting. The result is that valuable details fail to be included and interpretive explanations for events are thinly developed or nonexistent. Your Barbarossa experiences and especially your memory of the targets selected for attack and the disruptive effects observed on the Soviets are as important for gauging the disintegration of the Soviets as the available written documents. We propose that you think about that part of your life between the summer of 1940 and autumn 1941. We suggest that you get out maps of the areas in which your organization was deployed and where you planned and fought the opening stages of Barbarossa. The accompanying pages on which you can begin to record your experiences are intended to assist you in thinking about Barbarossa prior to the visit which we intend to make to Germany to discuss the operation with you face to face.

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Washington, DC, USA

PLANNING FOR BARBAROSSA

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II

BARBAROSSA

EXPERIENCES

PLANNING

Special emphasis on disruption of Soviet Command and Control Mechanisms and Communications, July 40-June 41.

Discussion: You may have held a staff position at OKW, OKH, OKL, army group, army, corps, or division, during this period, or you may have taken part in planning as a commander at corps, division, regiment, battalion, or company, or equivalent levels in the air force. Pique your memory in terms of the geographic area of your duty stations, the combat training preparations of your organization, the estimate of the enemy and other similar things which will help you to reconstruct the past.

1. First of All, Your Involvement in Barbarossa:

1.a. Biographical Sketch of Barbarossa Veteran: Date and Place of Birth -

Chronology of Military Service thru May 1945.
(Date, Duty Title, Geographic Location).

Highest Rank in Entire Career
(Date) -

Father and -
Grandfathers
Professions

Civilian -
Education

Military -
Schools

Combat, Decoration and Campaign
Ribbons/Badges -

1.b. (In More Detail) Rank, Organization, Position from July 40-October 41. Geographical Locations of Headquarters or Combat Organizations to which Assigned within the Framework of Barbarossa: (Write in this Space).

PLANNING

PLANNING FOR BARBAROSSA (CONTINUED)

2. Next, your experiences in planning for Barbarossa: Your experiences will depend heavily on your rank, organization, and position in 1940-1941. If, for example, you were a company commander within an infantry battalion you would have had a necessarily narrow experience in planning and targeting for the opening of Barbarossa. A staff officer, like an assistant operations officer, at the headquarters of a Panzer corps, in contrast, would have had a broader view of events and considerably different attack and targeting considerations for disrupting Soviet command, control and communications. We are interested in both the detailed lower level planning and the higher level headquarters considerations, rationales, and general principles for stunning the enemy command.

2.A. WHAT PLANS DID YOU AND YOUR ORGANIZATION MAKE FOR BARBAROSSA, FOR EXAMPLE:

2.A.(1) WHAT MISSION DID HIGHER HEADQUARTERS ASSIGN YOUR ORGANIZATION?

2.A.(2) WHAT PLANS FOR MANEUVER DID YOU MAKE FOR THE OPENING HOURS AND DAYS OF BARBAROSSA TO ACCOMPLISH THE GENERAL MISSIONS?

2.A.(3) WHAT TARGETS WERE SET BY YOU FOR DESTRUCTION BY FIRE OR SEIZURE BY CLOSE COMBAT?

2.A.(4) WHAT INDIVIDUAL TRAINING, ORGANIZATIONAL EXERCISES, OR WAR GAMES DID YOU ENGAGE IN FOR BARBAROSSA?

2.A.(5) WHAT EQUIPMENT DID YOU HAVE, E.G., WEAPONS, AMMUNITION, VEHICLES, RADIOS, ETC. TO PREPARE FOR BARBAROSSA?

2.A.(6) WHAT GENERAL SPIRIT DID YOU TRANSMIT TO THE TROOPS AS ESSENTIAL FOR SUCCESS IN THE OPENING STAGES OF BARBAROSSA?

PLANNING FOR BARBAROSSA (CONTINUED)

2.B. (1) WHAT PLANS DID YOU AND YOUR ORGANIZATION MAKE WHICH INVOLVED A CONCEPT OF ATTACK AGAINST SOVIET COMMAND, CONTROL, AND COMMUNICATIONS, AND CONTRIBUTED TO THE DISINTEGRATION OF THE ENEMY THROUGH SUCH ACTION, FOR EXAMPLE:

2.B. (1) WHAT COMMAND AND CONTROL MECHANISM DID YOU TARGET FOR FIRE OR SEIZURE BY CLOSE COMBAT?

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2.B. (1) (A) COMMENT ABOUT SOVIET COMMAND POSTS IN THE FIELD AS PRE-PLANNED TARGETS AND TARGETS OF OPPORTUNITY.

2.B. (1) (B) COMMENT ABOUT SOVIET COMMAND LOCATIONS FARTHER TO THE REAR IN VILLAGE STRUCTURES, CITY BUILDINGS, ETC.

2.B. (1) (C) COMMENT ON SOVIET COMMAND ELEMENTS IN MOVEMENT AS IDENTIFIED BY SPECIAL VEHICLES, COMMUNICATIONS EQUIPMENT, ETC AS TARGETS.

2.B. (2) WHAT COMMUNICATIONS FACILITIES DID YOU TARGET OR DESIGNATE AS OBJECTIVES?

2.B. (2) (A) COMMENT ON RADIO AERIALS AND EQUIPMENT IN THE FIELD AND RADIO STATIONS IN CITIES.

2.B. (2) (B) COMMENT ON TELEPHONE LINES AND COMPLEXES IN THE FIELD AND TELEPHONE EXCHANGES IN CITIES.

2.B. (2) (C) COMMENT ON RAILROAD STATIONS AND SWITCHING AND REPAIR FACILITIES, AND THE MOTOR VEHICLE ROAD SYSTEM.

3. FINALLY, YOUR VIEWS, OBSERVATIONS, AND OPINIONS ON THE PLANNING FOR BARBAROSSA:

BARBAROSSA
COMMENTS

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PLANNING

3.a. In your view did the German Army/ Air Force have a doctrine which demanded systematic attack specifically against enemy command, control, and communications in the planning of major offensives?

3.a.(1) Express what you feel was the rationale for such a doctrine.

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3.a.(2) Was the doctrine applied with special emphasis, targeting, and objectives in Barbarossa to take advantage of perceived soviet style, weakness, and strength?

3.b. If you did not operate under a specific Army-wide doctrine, describe the guiding principles at your lower level which prompted you to target soviet command, control, and communications for attack by fire and seizure by close combat.

3.c. In the light of the actual combat of June-July 1941, what targets and objectives would you have changed to have been more effective?

COMBAT OPERATIONS DURING BARBAROSSA

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OPERATIONS

4. YOUR EXPERIENCE OF COMBAT IN THE OPENING STAGES OF BARBAROSSA,

DISCUSSION: Here again your experience will depend heavily on your rank, organization, and position. If you were a company commander in a motorized rifle battalion, your mission, general objectives, and specific targets would have been different from those of a unit commander in an infantry division. Both the motorized and infantry commanders should have had perspectives different from those of a staff officer or a higher staff. Given the specific targeting necessary for air strikes against ground targets, air force officers should be able to recall a wide range of specific targets which they attacked. Army officers, in contrast, would probably have been oriented more to terrain and area objectives. We are interested in discovering the broadest range possible of targets attacked and objectives seized.

4.a. Reconstruct the following for 22 June 41: 4.a.(1) Your rank, organization, position.

4.a.(2). Geographic location your organization and hour (day) crossed soviet border.

4.a.(3). The targets which your organization attacked by fire and the objectives overrun in close combat during the first 24 hours of Barbarossa (for Air Force: targets attacked during first 24 hours).

4.a.(4) Describe the emphasis which your organization placed on disrupting soviet command, control, and communications during your initial movement across the border (for Air Force: Emphasis on command, control, communication targets).

4.a.(5) Describe the successes and failures of your attacks in the first 24 hours. Characterize the impact on the Soviets in terms of any disintegration which you began to observe.

4.B. RECONSTRUCT YOUR COMBAT EXPERIENCE IN THE FIRST 10 DAYS OF BARBAROSSA, AS FOLLOWS:

4.b.(1) Describe the targets which your organization fired on and the objectives which it overran in the great battles on the frontier during the first 10 days (for Air Force: targets attacked and any shifts in targets which developed based on success or failure of operations).

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OPERATIONS

4.b.(2). Describe how your organization kept the soviets off balance during the first 10 days, the emphasis placed on specifically disrupting Soviet command, control, and communications, and any noteworthy success or failures which you had against the soviet instruments of command.

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4.b.(3). In the first 10 days, the soviets were dealt heavy blows which brought them to the verge of collapse. What evidence of general disintegration and specific failure of command and control did you observe during this period? Can you relate the disintegration predominately with your attacks against command, control, and communication? If not, can you relate the soviet breakdown with the deep thrusts of the panzer groups and rapid marches of the infantry armies which served indirectly to smash Soviet command and control?

COMBAT OPERATIONS DURING BARBAROSSA (CONTINUED)

BARBAROSSA
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OPERATIONS

5. RECONSTRUCT YOUR COMBAT EXPERIENCE DURING JULY 1941 IN THE SOVIET UNION.

DISCUSSION: Army Group Center achieved immense success in July 41 with the encirclements at Minsk and Smolensk and the elimination of the resulting cauldrons. Army Groups North and South maintained heavy pressure against the Soviets and achieved notable success in the Uman cauldron in the Ukraine. During this time in the campaign, you probably had concrete evidence of the disruption of Soviet command and control. You probably also had established a pattern of attack which you can recall and relate with the disruption of Soviet command and control. The German Army during this time seized communication centers and the Air Force attacked Soviet lines of communications and communication centers in patterns which also contributed to the disintegration of the defending Soviet armies.

5.a. What general pattern of attack against the Soviets had you developed by July 41?

5.b. Describe the most important successes which your unit achieved in July 41?

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5.b.1. In what ways do you think that those successes contributed to the disintegration of the Soviet forces opposite from you in July 41?

5.b.2 What evidence do you have of Soviet disintegration in July 41, for example, (1) spasmodic, uncoordinated counterattacks based on faulty knowledge of the German situation, (2) prisoner of war comments on disintegration, (3) command post overrun, (4) bridges and cities seized in surprise coups, (5) Soviet conversations on monitored telephone and radio communications, etc.?

6. LATER OPERATIONS WITHIN THE FRAMEWORK OF BARBAROSSA: The most important German offensives launched late in Barbarossa were the Kiev encirclement (Sep 41) and the Doppelschlacht of Vyasma and Bryansk (Oct 41). Comment on your experiences within those battles or any other operations in the Soviet Union during Aug-Oct 41. Discuss, in particular, evidence of German disruption of Soviet command, control, and communication and the reasons for that disruption.

7. YOUR GENERAL IMPRESSIONS OF BARBAROSSA: Comment on any factors or events in Barbarossa which you feel contribute to a better understanding of the campaign.

8. YOUR GENERAL IMPRESSIONS OF THE EFFECTS OF BARBAROSSA ON THE SOVIETS: Comment on the factors in the German attacks of 1941 which most impressed the Soviets and which you observed the Soviets to emulate later in the war (1942-1945) and during the postwar period especially in terms of organization, tactics, and strategy for the opening of major offensives.

Sehr geehrter Herr

Häufig hat man sich bei der Arbeit an einem Forschungsprojekt des U.S.-Verteidigungsministeriums. Der Erfolg unserer Arbeit ist allein abhängig von den Kriterien, die wir uns setzen. Diese Kriterien, sei es in der Sache oder in der Form, und von ihrer Fähigkeit, sich die damaligen Freizeiten zu brennen. Wir haben uns daher vorgenommen, uns an eine Reihe von deutschen Offizieren zu wenden, die die erste Phase des Unternehmens "Barbarossa" entweder in Stäben aller Ebenen oder in der Truppe miterlebt haben und sie zu bitten, uns bei unseren Vorhaben zu helfen. Wir haben seit Aufnahme unserer Arbeit bereits mit einer Gruppe führender Offiziere der Deutschen Wehrmacht einige aufschlussreiche Interviews und Gespräche durchgeführt. Dabei fiel auch Ihr Name, was uns Veranlassung gibt, Sie in den Kreis weiterer zu befragender Offiziere einzubeziehen und auch Sie um Ihre Mitwirkung zu bitten. Wir beabsichtigen, in den Monaten Januar und Februar 1960 die Bundesrepublik Deutschland und Österreich zu besuchen, um in Gesprächen mit den von uns angesprochenen Offizieren die Zerschlagung der sowjetischen Führungsstäbe und ihrer Funk- und Fernmeldezentralen während der Eröffnungsphase "Barbarossa" zu rekonstruieren. Uns interessieren insbesondere die Pläne der höheren Führung, aber auch die der Truppenstäbe, zur Zerschlagung der Befehls- und Kampfleitungsmechanismen sowie der Nachschubeinrichtungen der Roten Armee. Es geht also um die Planung von Juli 1940 bis Juni 1941 und ihre Durchführung in den Monaten Juni/Juli 1941. Ihre Erfahrungen während dieser Phasen der Vorbereitung und Durchführung des Feldzuges sind zur Rekonstruktion der Offensive und ihre Auswirkung auf den Gegner eine wichtige Informationsquelle. Aus den uns zufließenden Informationen wollen wir die These überprüfen, wonach der aussergewöhnliche Erfolg der Deutschen Wehrmacht während der Eröffnungsphase "Barbarossa" bis heute einen bedeutenden Einfluss auf die sowjetische Strategie, Taktik und Organisation gewonnen hat, was erklären würde, warum es für die sowjetische Führung so entscheidend geworden ist, den Gegner schon im ersten Anscurm einer Offensive vernichtend zu schlagen.

Die meisten militärischen Kriegsdokumente, wie Befehle und Kriegstagebücher, sind im recht knappen Stil abgefasst. Meist fehlen wertvolle Details, und auf manche Ereignisse wird überhaupt nicht eingegangen oder sie werden nicht ausführlich genug beschrieben. Deswegen meinen wir, dass Ihre Erfahrung uns helfen wird, das Bild der damaligen Angriffsphase zu vervollständigen, aus dem allein wir ablesen können, auf welche Weise die sowjetischen Korpfeinheiten damals zerschlagen wurden. Wir möchten nun so verfahren dass wir Ihnen zunächst mit den beigefügten Blättern eine Reihe von Fragen vorlegen, mit der Bitte, diese, soweit es Ihnen möglich ist, zu beantworten. Sie sollen Ihnen bei der Erinnerung helfen und die Grundlage für das angestrebte Gespräch bilden, um das wir Sie schon heute bitten. Dazu werden wir uns erlauben, Sie während unseres Besuches in der Bundesrepublik anzurufen, um mit Ihnen einen Termin zu vereinbaren. Zu Ihrer weiteren Information dürfen wir darauf hinweisen, dass wir mit folgenden Offizieren der ehemaligen Deutschen Wehrmacht bereits eingehende Gespräche über den Verlauf des Feldzuges geführt haben:

- General der Panzer Truppe a.D. Hermann Balck
- Generalmajor a.D. Friedrich Wilhelm von Mellenthin
- Brigadegeneral a.D. Paul-Werner Hozzel

So sehr hilfreich uns auch die Beiträge dieser Offiziere gewesen sind, so kommt es dem U.S.-Verteidigungsministerium jedoch darauf an, die zu erforschenden Kriterien durch Befragung einer grösseren Zahl militärischer Führer aller Ebenen auf eine breitere Basis zu stellen, um ein ganzheitliches Bild jener entscheidenden ersten Phase des Unternehmens zu gewinnen und daraus wertvolle Schlüsse für die heutige Verteidigungsplanung zu ziehen. Wenn Sie die uns gestellte Aufgabe unter diesem ersten Aspekt betrachten wollen, hoffen wir zuversichtlich, auf Ihre Mitwirkung rechnen zu dürfen.

Mit vorzüglicher Hochachtung

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Monterey, California

Major Lonnie O. Ratley III, USAF
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Washington, D. C.

Besonderer Schwerpunkt liegt auf der Zerschlagung der sowjetischen Befehlsführung, operativen Leitung und Kommunikationseinrichtungen, Juli 1940 - Juni 1941
 Diskussion: Sie hatten während dieser Zeit möglicherweise eine Stabsposition inne auf der Ebene OKW, OKL, Heeresgruppe, Armee, Armeekorps, Division, oder Sie waren kommandierender General eines Korps, Kommandeur einer Division, eines Regiments, eines Bataillons, Chef einer Kompanie, oder im gleichen Rang in der Luftwaffe. Versuchen Sie, sich an die geographische Lage Ihres Einsatzortes, an die Kampfvorbereitungen Ihrer Einheiten, die Beurteilung der Lage, sowie andere Details, die zur Rekonstruktion dieser Phase wichtig sind, zu erinnern.

1. Zuerst Ihre Beteiligung an Barbarossa:

1.a. Biographische Daten des Barbarossateilnehmers: Datum und Ort der Geburt -

Vater und -
 Grossväter
 Berufe

Chronologischer Abriss des Militärdienstes bis Mai 1945.
 (Daten, Diensttitel, Einsatzorte)

Letzter Dienstgrad und letzte
 Dienststellung bei Kriegsende
 und gegebenenfalls in der Bundes-
 wehr.
 (Datum) -

Zivile Schul-
 bildung

Militärschulen

Kriegsauszeichnungen und
 Verdienstabzeichen/Ordens-
 bänder

1.b. (Detailliert) Rang, Verband, Position, Juli 1940 - Okt. 1941. Geographische Lage des Hauptquartiers oder der Kampfverbände, denen Sie für das Unternehmen Barbarossa zugewiesen wurden: (Bitte hier eintragen)

<div>PLANUNG FÜR BARBAROSSA</div> <div>2. NACH ZU IHREI ERFAHRUNGEN BEI DER PLANUNG VON BARBAROSSA: Diese werden hauptsächlich von Ihrem Rang, Verband und Ihrer Position in den Jahren 1940 - 1941 abhängen. Warer Sie z.B. Kompaniechef in einem Infanteriebataillon, so können Ihre Erfahrungen bei der Planung und Zielfestsetzung zur Erfassung von Barbarossa nur begrenzt sein. Dagegen hatte ein Stabsoffizier im Hauptquartier eines Panzerkorps einen besseren Überblick und entsprechen andere Angriffs- und Zielauswahlüberlegungen zum Zerschlagen der sowjetischen Befehlsführung, der operativen Leitung und der Kommunikationseinrichtungen. Uns interessieren sowohl die detaillierte Planung auf niedrigerer Ebene als auch die Überlegungen, Grundprinzipien und allgemeinen Grundsätze zur Überraschung der sowjetischen Befehlsführung.</div>	<div>BARBAROSSA ERFAHRUNGEN</div> <div>SEITE 111</div> <div>PLANUNG</div>
2.A. WELCHE PLÄNE HABEN IHREM VERBAND ODER STAB FÜR BARBAROSSA VORGELEGEN, Z.B.:	
2.A.(1) WELCHE KAMPFAUFTRÄGE ERHIELT IHR VERBAND ODER STAB VON ÜBERGEORDNETEN HAUPTQUARTIEREN?	
2.A.(2) WIE LAUTETEN DIE EINSATZBEFEHLE IHRES VERBANDES ODER STABES FÜR DIE ERÖFFNUNGSSTUNDEN- UND -TAGE VON BARBAROSSA IM SINNE DES ALLGEMEINEN KAMPFAUFTRAGS?	
2.A.(3) WELCHE ZIELE WAREN FÜR DIE ZERSTÖRUNG DURCH ARTILLERIE UND WELCHE FÜR DIE EINNAHME IM NAHKAMPF VORGESEHEN?	
2.A.(4) WELCHE ART VON TRAINING, TRUPPENÜBUNG ODER KRIEGSSPIELEN WURDEN ALS VORBEREITUNG FÜR DAS UNTERNEHMEN DURCHFÜHRT?	
2.A.(5) WELCHE AUSRÜSTUNGSGEGENSTÄNDE, Z.B. WAFFEN, MUNITION, FAHRZEUGE, FUNKGERÄTE, ETC. WURDEN FÜR DIE VORBEREITUNG VON BARBAROSSA BEREITGESTELLT?	
2.A.(6) WELCHE KAMPFSTIMMUNG WURDE DEN TRUPPEN ALS MOTIVATION FÜR DEN ERFOLG DER ERÖFFNUNGSPHASE ÜBERMITTELT?	

IN WELCHEN IHRE PLÄNE UND JENEN IHRES TRUPPENVERBANDES GAB ES EIN ANGRIFFSKONZEPT GEGEN SOWJETISCHE BEFEHLSFÜHRUNG, OPERATIVE LEITUNG UND KOMMUNIKATIONSEINRICHTUNGEN, DAS ZUR AUFLÖSUNG DES FEINDES DURCH DERARTIGE OPERATIONEN BEITRUG.	ERFAHRUNGEN	IV
<p>PLANUNG FÜR BARDAPOSSA (FORTS.)</p> <p>2.3.(1) WELCHE HAUPTQUARTIERE UND NACHRICHTENZENTRALEN FÜR DIE BEFEHLSÜBERMITTLUNG HATTEN IHR STAB ODER VERBAND ZUM BESCHUSS ODER ZUR EINKAMPF IM NAHKAMPF ALS ZIEL GEWÄHLT?</p>	PLANUNG	
<p>2.3.(1)(A) BERICHTEN SIE ÜBER DIE SOWJETISCHEN GEFECHTSSTÄNDE DIE ENTWEDER GEPLANTE ANGRIFFSOBJEKTE ODER ZUFALLSZIELE WAREN.</p>		
<p>2.3.(1)(B) BERICHTEN SIE ÜBER SOWJETISCHE KOMMANDOPOSTEN IN HINTERHÖFEN VON DÖRFERN UND STÄDTEN.</p>		
<p>2.3.(1)(C) BERICHTEN SIE ÜBER BEWEGLICHE SOWJETISCHE FÜHRUNGSDIENSTE, DIE VON SONDERFAHRZEUGEN, DEM FUNKHOPCHDIENST UND ANDEREN NACHRICHTENZENTRALEN ASSERFORT UND ALS ZIELE IDENTIFIZIERT WURDEN.</p>		
<p>2.3.(2) WELCHE KOMMUNIKATIONSEINRICHTUNGEN WURDEN ALS ZIELE AUSGEWÄHLT ODER ALS ANGRIFFSZIELE BESTIMMT?</p>		
<p>2.3.(2)(A) BERICHTEN SIE ÜBER FUNKANLAGEN DES GEGNERS AUF DEM GEFECHTSFELD SOWIE ÜBER RUNDFUNKSTATIONEN IN STÄDTEN.</p>		
<p>2.3.(2)(B) BERICHTEN SIE ÜBER TELEPHONLEITUNGEN UND TELEPHONZENTRALEN AUF DEM GEFECHTSFELD SOWIE VERMITTLUNGSKNOTENPUNKTE IN STÄDTEN.</p>		
<p>2.3.(2)(C) BERICHTEN SIE ÜBER BAHNHÖFE, VERSCHIEBEBAHNHÖFE UND REPARATUREINRICHTUNGEN, SOWIE ÜBER DAS STRASSENNETZ</p>		

PLANUNG FÜR BARBAROSSA (FORTS.)		BARBAROSSA BEMERKUNGEN	SEITE
3. ZUM SCHLUSS ETWAS ÜBER IHRE ANSICHTEN, BEOBSACHTUNGEN UND MEINUNGEN ÜBER DIE PLANUNG VON BARBAROSSA.			V
3.a. Coerierten Ihrer Ansicht nach die Verbände der Deutschen Wehrmacht nach einer Doktrin, die den systematischen Angriff auf alle gegnerischen Kommandozentralen und ihre operativen Nachrichtenverbindungen bei der Planung einer grossen Offensive verlangte?		PLANUNG	

3.a.(1) Was war Ihrer Ansicht nach die Überlegung für eine derartige Doktrin?

3.a.(2) Wurde diese Doktrin besonders bei der Zielauswahl für Objekte in Barbarossa angewendet, um aus dem beobachteten sowjetischen Stil, den Schwächen und Stärken, einen Vorteil zu finden?

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3.b. Sollte es keine solche allgemeingültige Doktrin gegeben haben, so beschreiben Sie bitte nach welchen Grundsätzen auf Ihrer Stabs- oder Verbandsebene die sowjetische Befehlshührung, operative Leitung und die Kommunikationseinrichtungen als Artillerieziel oder zur Einnahme im Nahkampf bestimmt wurden.

3.c. Welche Ziele und Zielsetzungen hätten Sie für die erste Angriffsphase Juni-Juli 1941, zur Erreichung einer höheren Wirksamkeit geändert?

DISKUSSION: Wiederum wird Ihre Erfahrung größtenteils von Ihrem Rang, Truppenverband und Ihrer Position abhängen. Wären Sie Kompaniechef in einem motorisierten Bataillon gewesen, so wären Ihre Aufgaben, allgemeinen Zielsetzungen und spezifischen Ziele verschieden von jenen eines Einheitsführers in einer normalen Infanteriedivision gewesen. Sowohl der Kommandeur des motorisierten Bataillons als auch der Infanteriekommandeur sollten eine andere Perspektive gehabt haben als ein Stabsoffizier in einem höheren Stab. Da Angreifer aus der Luft eine besondere Auswahl von Bodenzielen benötigen, sollten Luftwaffenoffiziere sich wahrscheinlich mehr auf spezielle Ziele orientiert haben. Wir versuchen, so viele verschiedene angegriffene Ziele und eingenommene Objekte wie möglich zu identifizieren.

4.a. Nennen Sie bitte für den 22. Juni 1941: 4.a.(1) Ihren Dienstgrad, Ihre Dienststellung und Ihren Verband bzw. Stab.

4. a. (2) Ort und Zeitpunkt (Stunde) als Ihr Verband die sowjetische Grenze überschritt bzw. überflog.

4.a. (3) Ziele, die Ihr Verband in den ersten 24 Stunden durch Feuer angriff und solche, die im Nahkampf überrannt wurden (für Luftwaffe: Ziele, die in den ersten 24 Stunden angegriffen wurden.)

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4.a.(4) Beschreiben Sie, wie wichtig es für Ihren Verband war, sowjetische Befehlsführung, operative Leitung und Kommunikationseinrichtungen während der Anfangsbewegungen über die Grenze zu zerschlagen. (für Luftwaffe: Schwerpunkt auf Ziele der Befehlsführung, operativen Leitung und Kommunikations-einrichtungen.)

4.a.(5) Beschreiben Sie Erfolge und Fehlschläge Ihrer Angriffe in den ersten 24 Stunden. Beschreiben Sie eingehend die Auswirkung auf die Sowjets in Bezug auf jegliche Auflösung, die Sie beobachten konnten.

KAMPFHANDLUNGEN WAHREND BARBAROSSA (FORTS.)
KAMPFERFAHRUNGEN WAHREND DER ERSTEN 10 TAGE VON BARBAROSSA WIE FOLGT:

4.3. REKONSTRUIEREN SIE IHRE KAMPFERFAHRUNGEN WAHREND DER ERSTEN 10 TAGE VON BARBAROSSA WIE FOLGT:

4.3.(1) Beschreiben Sie die Ziele, die Ihr Verband mit Feuer belegte und diejenigen, die Sie während der grossen Schlachten an der Grenze in den ersten 10 Tagen überrannten (für Luftwaffe: Angegriffene Ziele sowie jegliche Zieländerungen, die sich aus Erfolg oder Misserfolg einer Operation ergaben).

4.3.(2) Beschreiben Sie, wie es Ihrem Verband gelang, die Sowjets in den ersten 10 Tagen aus dem Gleichgewicht zu bringen; der Schwerpunkt liegt hier besonders auf dem Zerschlagen sowjetischer Befehlsführung, operativer Leitung und Kommunikationseinrichtungen. Beschreiben Sie auch jeglichen bemerkenswerten Erfolg oder Misserfolg, den Sie bei Ihren Angriffen auf sowjetische Befehlsführung, operative Leitung und das Netz der Kommunikationseinrichtungen hatten.

4.3.(3) In den ersten 10 Tagen mussten die Sowjets heftige Schläge einstecken, die sie an den Rand des Zusammenbruchs brachten. Welche Beweise allgeringer Auflösung und spezifischen Versagens seitens der Befehlsführung und der operativen Leitung konnten Sie in diesem Zeitraum beobachten? Ist diese Auflösung hauptsächlich auf Ihre Angriffe auf die Befehlsführung, operative Leitung und die Kommunikationseinrichtungen zurückzuführen? Wenn nicht, ist dann der sowjetische Zusammenbruch auf die tief eindringenden Angriffe der Panzerverbände und auf das rasche Vordringen der Infanteriedivisionen zurückzuführen, die durch ihren stürmischen Vormarsch die sowjetische Befehlsführung und operative Leitung lahmgelegt bzw. zerstört haben?

DISKussion: Die Heeresgruppe Mitte hatte im Juli 41 mit der Einkreisung von Minsk und Smolensk sowie mit der Eliminierung der sich ergebenden Kessel immensen Erfolg. Die Heeresgruppe Nord und Heeresgruppe Süd übten weiter heftigen Druck auf die Sowjets aus und waren im Umkessel und in der Ukraine bemerkenswert erfolgreich. Zu diesem Zeitpunkt in der Kampagne war Ihnen wahrscheinlich der Zerfall der sowjetischen Befehlshührung und operativen Leitung offensichtlich. Sie hatten wahrscheinlich ebenfalls ein Angriffsschema entwickelt, an welches Sie sich erinnern und welches Sie mit der Zerschlagung sowjetischer Befehlshührung und operativer Leitung in Verbindung bringen können. Während dieser Zeit nahmen die deutschen Armeen Kommunikationszentren ein und die Luftwaffe griff sowjetische Nachschublinien und Kommunikationszentren nach bestimmten Schema an, die zur Auflösung der sich verteidigenden sowjetischen Armeen beitrugen.

5.a. Welches allgemeine Angriffsschema gegen die Sowjets hatten Sie bis Juli 41 entwickelt?

5.b. Beschreiben Sie die wichtigsten Erfolge Ihrer Einheit im Juli 41.

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5.b.1. Auf welche Weise, glauben Sie, hatten diese Erfolge zur Auflösung der Sie konfrontierenden sowjetischen Streitkräfte im Juli 1941 beigetragen?

5.b.2. Welche Beispiele können Sie für die sowjetische Auflösung im Juli 41 anführen, z.B. (1) vereinzelte, unkoordinierte Gegenangriffe wegen Fehleinschätzung der deutschen Situation; (2) Kommentare von Kriegsgefangenen über Auflösung; (3) Überrennen von Gefechtsständen und Hauptquartieren; (4) Überraschende Einnahme von Brücken und Städten; (5) Sowjetische Gespräche, die über Telefon und Funk abgehört wurden, etc.

KAMPFHANDLUNGEN WAHREND BARBAROSSA (FORTS.)

6. STÄRKE OPERATIONEN IM RAHMEN VON BARBAROSSA: Die wichtigsten deutschen Offensiven in der Spätphase von Barbarossa waren die Einkreisung von Kiew (Sep. 41) und die Doppelschlacht von Wjasma und Brjansk (Okt. 41). Berichten Sie über Ihre Erfahrungen in diesen Schlachten oder in anderen Operationen in der Sowjetunion in der Zeit zwischen August und Oktober 41. Berichten Sie besonders über Beispiele der Zerschlagung sowjetischer Befehlshaber, operativer Leitung und von Kommunikationseinrichtungen, sowie über die Gründe für diese Zerschlagung.

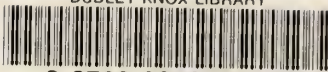
7. IHR ALLGEMEINER EINDRUCK VON BARBAROSSA; Berichten Sie über alle Faktoren und Ereignisse in Barbarossa, die Ihrer Meinung zu einem besseren Verständnis des Feldzuges beitragen.

8. IHR ALLGEMEINER EINDRUCK VON DEN AUSWIRKUNGEN BARBAROSSAS AUF DIE SOWJETS: Berichten Sie über jene Faktoren deutscher Angriffe des Jahres 41, die die Sowjets am meisten beeindruckten und welche, wie Sie beobachten konnten, später im Krieg (1942 - 1945) und während der Nachkriegszeit besonders hinsichtlich Organisation, Taktik und Strategie für die Eröffnung einer bedeutenden Offensive von den Sowjets nachgeahmt wurden.

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